DIGITAL LITERACIES OF MY FORMER PRESERVICE TEACHERS: ARE THEY BEING PREPARED?

_____

A Dissertation

Presented to

The Faculty of the Department of Language, Literacy, and Special Populations

Sam Houston State University

_____

In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

_____

by

Elizabeth Baker Gound

May 2020

DIGITAL LITERACIES OF MY FORMER PRESERVICE TEACHERS: ARE THEY BEING PREPARED?

by

Elizabeth Baker Gound

_____

APPROVED:

Hannah R. Gerber, PhD
Committee Director

Debra P. Price, PhD
Committee Member

Sandra Stewart, EdD
Committee Member

Nancy K. Votteler, EdD
Committee Member

Stacey Edmonson, EdD
Dean, College of Education

DEDICATION

This dissertation is dedicated to my daughter, Jordan Dimple, aka “Jorge.” I hope you never fully understand the sacrifices you have made for me! Thank you for encouraging me and doing homework with me, side-by-side at the kitchen and dining room table. But more importantly, giving me the time I needed to get this thing finished! Yes, I will have more free time now! I will always be your #1 Fan! I Love You! YEET!

ABSTRACT

Gound, Elizabeth B., *Digital literacies of my former preservice teachers: Are they being prepared?* Doctor of Education (Literacy), May 2020, Sam Houston State University, Huntsville, Texas.

This study is to explore the intersections and disjunctures between digital literacy practices in a teacher preparation program coursework and personal digital literacy use. This research was based on interviews with six in-service teachers about their digital literacies' in their first year as a classroom teacher, as a reflection on their teacher preparation program.

The findings of this study indicate that teacher preparation programs should provide as much background knowledge of digital literacies and technology applications in preservice teachers' coursework as needed for that program. However, there are districts that have adopted their own software and technology applications, therefore, when preservice teachers enter these districts, it is hard for them to be prepared for all of the technology. What is important is experience and preparation with digital literacies (i.e., intersections of technology and literacy, Heitin, 2016) in teacher preparation programs, so teachers can transfer them into their classroom instruction and pedagogy.

Further, this study provides evidence of online resources and interactions between learners and coursework, that suit the framework for preservice teacher education. Barriers that occurred when accessing digital devices in a classroom, as well as connections between teachers, learners, and parents, were also present in this study. While teacher preparation is important, the findings signify that there is no means to be prepared for it all.

KEY WORDS: Digital literacies, Preservice teachers, Digital tools, K-12 practices, Higher education teacher programs

ACKNOWLEDGEMENTS

I would like to first thank my Lord and Savior, Jesus Christ. He got me through the rough patches and kept me on course. “Learning to smile again after the storms.” Job 8:21. #I’msmilingB!

I would also like to thank my parents, Bob and Sarah Baker, whose dedication to the Lord and tremendous example they set for their children and grandchildren, made me who I am today. Without their love, support, and constant praise, I wouldn’t have made it through – I love you, Pop and Rara.

To my brothers and sisters, Bobby Scott, Kelly, Brooke, Chris, and Billy – you have always been on my side, no matter the situation. Thank you for being my siblings - but more importantly, my friends!

Cole, Sloane, Cooper, Kate, Karys, Carly, Allie, and Avery – My nephews and nieces, NEVER – EVER GIVE UP!

My Pino-Grigio Girls are next in line for expressing my gratitude. The best part of being in a tribe is the love and support you receive, no matter what. Thank you, girls, for your love, for your support, for your friendship – you are a tribe among tribes.

To my boyfriend, B-Rad, you supported me through the last haul. I’m excited for our journey. #b&bstrong

I would like to thank the chair of my committee, Dr. Hannah Gerber for her constant support and dedicated feedback. When I say dedicated, I mean she was on point with every piece of feedback and knowledge she bestowed upon my writing. I have not understood sacrifice until this dissertation and with her support, SACRIFICE, seems like

too small a word. My first course was in 2014 with Dr. Gerber and I knew then, she was someone to know – thank you for our six years of connection and here's to 20 more!

To my committee: I've known all of you for a long time. You are my professors, my peers, my friends. There is a lot to go into a program like this and you made it so accommodating and accessible. Thank you, Dr. Debra Price, Dr. Sandra Stewart, and Dr. Nancy Votteler

TABLE OF CONTENTS

Page

LIST OF TABLES

Table **Page**

LIST OF FIGURES

Page

CHAPTER I

Introduction

"I don't think I am very technologically savvy. I use my iPhone and iPad for social reasons - texting, streaming, emailing, etc. While I see these things as important to my everyday personal life, I do not see the connection with my everyday future, professional life, a classroom teacher. I go to college, I work at Barnes and Noble on campus, and I do community service through my church, other than connecting through emails and texts, I do not see a link between technology and my future as an educator." - *Sarah Jordan (pseudonym), preservice teacher, fall 2014*

"Learning through technology has proven very useful thus far. Not only can I use this for this course, I can also use this for my other classes' textbooks, note taking, and even looking up sheet music for all my musical needs."— Billy Ashley (pseudonym), preservice teacher, fall 2014

"I was a bit anxious to be in a class that focused so heavily on utilizing technology. Not for fear of technology itself, but just fear of getting outside of my comfort zone. However, after a few hours of playing on my Surface Pro, I began to fall in love. There are still times I prefer my paper and pen to write notes, but I have been utilizing my Surface Pro more and more with each class that I have. I have also utilized it at work (i.e., as a substitute) when my students are unsure of a concept and it would be much easier to SHOW them what it is - I just pull out my SP3 and pull up whatever they need to know on the internet." - *Betsy Randle (pseudonym), preservice teacher, spring 2016.*

Background

Students of the Net-Generation who were born between January 1977 - December 1997, were the first to grow up with digital media surrounding their every being (Tapscott, 2009) and are subject to defining moments in history that guide their life's view (Nowell, 2012). The Net-Geners, born 1977 – 1997 are also known as Millennials (Pew Research, 2018). Moments like the Columbine shootings, September 11th, and the War in Iraq inspired Tapscott (2009) to give them another name, The Echo Boomers (i.e., Net-Gen). These Echo Boomers are "bathed in bits" (p.17), as this researcher described this generation because of the significant change in computers, the Internet, and digital technologies; they literally have the world at their fingertips, the push of a button or screen (2009).

Preservice teachers of this study fall into that category of the Net Generation, Millennials, or Echo Boomers, although the students they will be teaching are Generation Next or "Generation Z" (Tapscott, 2009), making up 40.1 million children who were born in or after 1998 in the United States. The problem exists in the Generation Next digital literacy practices versus the Net-Geners or Millennials. Those students of Generation Next (i.e., Generation Z) assimilate with technology as another "part of their environment" (p. 18), while learning a new way of communication and information access for adults (i.e., Net Generation) requires new ways of thinking and accommodating new technology (2009).

The quotes at the beginning of the chapter were from preservice teachers who completed a literacy course I taught, where students used digital literacies and technology devices to create lesson plans, take notes, and complete coursework activities. I modeled

classroom activities using electronic devices in my teaching, communication, and classroom presentations where I was the teacher of record for the course. (For the remainder of this proposal and dissertation, I will refer to myself, the researcher, in the first person).

A historical understanding of the definition of digital literacies is important to this research. Digital literacy was defined by Glister (1997) as the capability of understanding and using information presented by computers in various formats. Glister (1997) described a more critical evaluation of what is found on the web, rather than the technical competence as the focus of digital literacy. Lankshear and Knobel (2008) extend that definition to go beyond technical tool application, to more of an understanding of how to employ those tools effectively. Mayes and Fowler (2006) added this to digital literacy:

> Just as the field of educational technology has matured from a 'delivery of content' model to one that emphasizes the crucial role of dialogue, so the field of digital literacy, we suggest, should shift its emphasis from skill to *identity.* (Italics original) Digital literacy therefore varies between individuals, as their life situations vary – it is a quality of the person, not an externally-defined threshold to be attained. There is no "one size fits all" (p. 27).

Lankshear and Knobel (2008) moved beyond the listening skills of digital literacy to the role of individual, digital growth, "as student, worker, and person" (p. 173). For the purposes of this study, I also used this definition of digital literacy. Digital literacy was defined as an on-going learning that takes place on the individual level with an ongoing construction, of individual identity in the digital world (Lankshear & Knobel, 2008).

Basic terminology of new literacies was described by Lankshear and Knobel (2008) as: (a) media literacy; (b) information literacy; (c) digital literacy: (d) techno-literacy; (e) computer literacy; (f) electronic literacy; and (g) network literacy (p. 95). Lewis (2007) also discussed new literacies as those that "allow writers a good deal of leeway to be creative, perform identities, and choose affiliations within a set of parameters that can change through negotiation, play, and collaboration" (p. 231).

The National Council of Teachers of English (NCTE) submitted changes to their beliefs in integrating technology into the English Language Arts classroom: "what it means to communicate, create, and participate in society seems to change constantly as we increasingly rely on computers, smartphones, and the web to do so" (NCTE, 2018). These changes will be expounded in the study: (a) literacy means literacies; (b) consider literacies before technologies; (c) technologies provide new ways to consume and produce texts; and (d) technologies and their associated literacies are not neutral (NCTE, 2018). I will be using digital literacies throughout my study, although some authors refer to the term as digital literacy. Therefore, when I am referring to my former students, now classroom teachers and their practices, literacies will be used. When referring to another authors' voice, I will cite digital literacy.

Ten years after Lankshear and Knobel (2008) defined digital literacy and new literacies, Robertson and Lange (2017) described a re-defining of digital literacies as more than just a set rule of attributes. Digital literacies should focus on the students and teachers' sense of belonging, or the ways people use tactics to communicate and collaborate within their communities (Robertson & Lange, 2017). These digital literacies included: (a) inclusivity, (b) agility, (c) critically, (d) confidence, (e) responsibility, and

(f) creativity (p. 141). Martin (2006) urged to not have one literacy that describes all the literacies and skill-sets, nor try and make one model of digital literacy fit all people. The key concepts in the International and Communication of Technology (ICT) report located in Table 1 described the interpretation of Lankshear and Knobel's (2008) elaboration of the Educational Testing Services (ETS, 2002) *Digital transformation: A framework for ICT Literacy (*ETS, 2002) report of key concepts in ICT literacy. These competencies are connected to school curriculum, school settings, and out-of-school connections (Lankshear & Knobel, 2008).

Table 1

Key Concepts of ICT Literacy

Basic Skills	Open software - sort out and save information on the computer, simple skills using the computer and software
Download	Download different types of information from the internet
Search	Get access to information
Navigate	Orient in digital networks, strategies using the Internet
Classify	Organize information according to genre
Integrate	Compare and put together types of multimodal text information
Evaluate	Critically judge the quality, relevance, and usefulness of the accessed information
Communicate	Communicate information and express opinions through different mediational means
Cooperate	Take part in net-based interactions and learning and take advantage of digital technology in different networks
Create	Developing something new in different forms of content, including multimodal texts, web pages, using available tools

Adapted from Lankshear and Knobel's Key Concepts of ICT Literacy, in ETS *Digital Transformations report, 2002.*

Research suggested the need for teacher preparation programs to provide preservice teachers opportunities to use technology with activities and assignments that allows them to be able to apply these practices in their future classrooms (Banister & Vannatta, 2006; Duncan-Howell, 2012; Hughes, 2013). An understanding and application of digital literacy standards are also important for teachers in today's classrooms for

adoption into their lessons and classrooms (Wen & Shih, 2008). Erstad (2007) described the impact of digital technologies as significant "transitional learning spaces' (p. 183) for todays' youth, connecting in-school activities and out-of-school activities.

Statement of Problem

Archer, Childs, Covaciu, and DeYoung's (2012) mixed methods research discussed how educators teaching today's youth have minimal experience and knowledge of applying necessary technological tools in the workplace and their daily lives. According to Archer et al., (2012) educators regarded this technology invasion as little or no time for preparation in the field of education. They posited that veteran teachers and adults have not grown up in the digital world of the adolescents they teach, therefore leaving a gap in effective implementation of technology in the classroom (Archer et al., 2012).

In the 2012 Duncan-Howell study, researchers strived to assist college professors (i.e., higher education teachers) in preparing their students for digital literacies and fluency and planning in the learning environment. Duncan-Howell (2012) discovered that "expectations have been either largely ignored or have failed to be understood by universities, resulting in a mismatch between student expectations and their experiences" (p. 827). Burnett (2011) argued the need of digital literacies opportunities across all areas of teachers' personal and professional lives, for advancement into investigating and developing pedagogies that make the most of digital literacies and technology advancement in the classroom. Research indicated the necessity of university's teacher preparation program to prepare pre-service teachers how to embed digital literacies in

their pedagogy and instruction (Archer et. al., 2012, Banister & Vannatta, 2006; Boulton & Hramiak, 2014; Hughes, 2013).

Purpose of Study

The purpose of this study is to explore intersections and disjunctures between digital literacies practices in a teacher preparation program coursework and personal digital literacies use to better understand their strengths of using these literacies in a school setting; applying them to coursework and assignments, not just personally. Studying their personal and professional use of digital literacies will also allow me and other educators to better understand what digital literacies students are using out-of-school and how we can incorporate them into coursework and connect to students in the classroom. I will use this collective case study to better comprehend preservice teachers' uptake of digital literacies in their teacher preparation program and to see if and how those digital literacies transferred into their first-or-second year in a Title One School classroom. I will use this data to alter and modify any application of digital literacies in my coursework in a teacher preparation program.

Philosophical Perspective

A philosophical perspective is used to understand how a researcher views the world and allows a researcher to determine the appropriate research paradigm and related methodologies (Creswell & Poth, 2018). The philosophical perspective and research paradigm that guide this study are closely aligned with the social constructivist theories characterized by Berger and Luckmann (1967), comparing social order to that of human interaction. As long as people are persistent in activity and communication, social order will survive (Berger & Luckmann, 1967). This paradigm supports the concept of social

activities, based on participants' understanding and uptake of digital literacy application. I will select key informants (i.e., criterion cases), endorsing the social constructivists' conception on how interview interpretations are arranged and socially created by interviewers and interviewees (Roulston, 2010), producing interaction. I will focus on participants' perceptions of their understanding and uptake of digital literacies (both personal and professional) during and after their teacher preparation program, to better understand their insights of digital literacies in the classroom in a Title One school.

With a social constructivist paradigm, the study will focus on the social processes and interactions of my former preservice teachers and their digital literacies within their coursework. I will be seeking to understand if the social processes and interactions of digital literacies transferred in the classroom with their lessons and activities. My former preservice teachers, prepared lessons for their coursework that they could apply to their future classroom instruction in a Title One school. While they were enrolled in their teacher preparation program, they administered these lessons and activities embedded with digital literacies to their students in their field experiences in Title One schools. This study will help guide teacher educators' lessons using digital literacies that they prepared in their teacher preparation program to fit the needs of their students in future classroom instruction and activities. Also, along with the professional use of digital literacies, the personal use of digital literacies can assist teachers in connecting with their students in the classroom (Burnett, 2011; Cetin et al. 2012; Joosten, Pasquini, &Harness, 2013; Misirli & Akbulut, 2013).

Practical Framework

Lester (2005) defined a research framework as a structure of ideas on the investigative topic of research. Theoretical, conceptual, and practical frameworks differ in several ways. A theoretical framework guides research in theory that has been observed in relationships, whereas a conceptual framework is an "argument with the concepts chosen for investigation, and any anticipated relationships among them, will be appropriate and useful given the research problem under investigation" (p. 460). Both theoretical and conceptual frameworks are based on research already conducted (Lester, 2005). A practical framework is described as an "accumulated practice knowledge of practitioners" (p. 459) whereby the framework guides the researcher directly involved in the experience, during the experience, towards what is effective (Lester, 2005). This study rests upon the practical framework of the International Society of Technology in Education (ISTE) standards for teacher educators.

The ISTE standards provide teachers guidelines for composing technology-rich lessons, collaborating with peers, rethinking traditional approaches to classroom instruction, and driving their own learning (ISTE, 2018). ISTE standards consist of aspects regarding: (a) the learner; (b) the leader; (c) the citizen, (d) the collaborator; (e) the designer; (f) the facilitator; and (g) the analyst. The practical framework will be applied to my self-study of my teaching of my former preservice teachers' application of the ISTE standards in their Title One classrooms. While using the practical framework has advantages (i.e., people directly involved), a limitation is that it is not generalizable, it only fits what is working in this experience, under these conditions (Scriven, 1986). The social constructivist paradigm (Berger & Luckman, 1967) and practical framework

outlining the ISTE standards for teachers will guide this research of digital literacies in education.

Guiding Questions.

To complete an analysis of preservice teachers' viewpoint of the preparedness of digital literacy integration in a teacher preparation program and how they integrated these digital literacies in a classroom for their first and/or second year of teaching, the following research questions will guide this study:

1. How do my former preservice teachers apply digital literacies in their classrooms and teaching after their teacher preparation program?
2. How do my former preservice teachers apply digital literacies in their personal lives after their teacher preparation program?
3. What intersections and disjunctures occur between how my former preservice teachers personally and professionally apply digital literacies?

Research Methods

This study will follow Leech and Onwuegbuzie's (2010) 13-step methodological framework for qualitative research. Step 1: Objective for research; Step 2: Develop research study objective; Step 3: Justification for research; Step 4: Ultimate objective of research study; and Step 5: Developing research questions. Descriptions of Steps 6-11 are offered in chapter. Step 6: classification of sampling; Step 7: type of qualitative inquiry for the research design; Step 8: data collection process; Step 9: transcript evaluation; Step 10: analysis of data; Step 11: synthesis and analysis of data. First, I analyzed existing data from my previous courses over the past five years, collected from the archives of my coursework, which is stored in the online platform Desire 2 Learn

(D2L, Mid-South University, 2014-2017). The data collected from these online spaces included discussion boards, online communication platforms, student reflections, class assignments, and activities.

Following the analysis of the course data, I selected up to six key informants, as criterion cases, who have since graduated from the teacher education program and conduct interviews of their first-or-second year teaching in Title One schools. Criterion used to select these six cases includes; (a) former preservice teacher enrolled in one or more of my courses, (b) former preservice teachers who were using multiple digital literacies in their coursework, and (c) current teachers in their first or second year teaching at a Title I school in East Texas…these interviews will allow me to better understand their perceptions (i.e., self-efficacy) of digital literacy integration in the classrooms. Empowering teachers with the digital literacies and practices necessary for teaching adolescents who have grown up in a digital world, will drive this collective case study.

Significance of the Study

The results from this study will help me to better understand personal and professional uptake of digital literacies practices among my former preservice teachers. This study will help me to bridge the gap between preservice teachers' perceptions of digital literacies in their personal lives and during their professional studies in a teacher preparation program, by better understand their incorporation of digital literacies in their first and second year as a teacher, as well as how they personally use digital literacies in their personal lives. Additionally, these findings will help provide teacher preparation

programs the necessary tools for future professional development and digital literacies integration into their course curriculum. ISTE (2018) posited:

> Today's educators must provide a learning environment that takes students beyond the walls of their classrooms and into a world of endless opportunities.…ensuring that digital-age students are empowered to learn, live, and work successfully today and tomorrow (para. 1).

Limitations and Delimitations

Limitations. There are several limitations to this study. First, there are a limited number of participants observed in only one teacher education courses. Secondly, the information will be gathered from up to six participants discussing their personal and professional digital literacies practices in a teacher preparation program, inevitably providing information about their evaluations of their own perceptions of digital literacies, not necessarily accurate evaluations of themselves. A third limitation to the study is the technology restrictions in the classrooms of the in-service teachers in this study. Websites are often controlled on school districts main servers and technology directors block sites that could be harmful to students.

Also, some districts might limit the number of computers or devices in a classroom, leaving one or two for student use. Finally, using a practical framework versus a theoretical or conceptual framework, limits the study to the research that is being done in that experience, under the conditions of that specific context. These external (i.e., one school, technology restrictions, computers) and internal (i.e., perceptions, overwhelming mentality, confidence) barriers that limit digital literacy integration of this study can be possible research subjects for other studies.

Delimitations. There are several researcher-enforced delimitations to this study to narrow the focus and preserve a manageable study. The researcher will deliminate the study to participants within a 200-mile radius who previously were enrolled in the teacher preparation program at a four-year university. The study will be further delimited by the selection of participants who are in their first- or second-year teaching in a classroom at a Title One school. Selection of these participants will be those enrolled in one or more of my courses and received a teacher certification in the teacher preparation program from that university.

Another important delimitation will be researcher subjectivity. Yin (2003) noted the case study researcher must uphold impartiality to keep the study restricted of potential bias. I will be aware of potential bias in the study. I developed a rapport with these participants during their interaction in my course. Therefore, when conducting the interview, there will be no pre-determined partiality of the participants and participants will not have any ties to me, my coursework, or university where they were enrolled. Participants will be allowed to speak freely about their interactions in the course, the teacher preparation program, and what digital literacies they transferred into their own classroom, if any.

There are several researcher-enforced delimitations to this study to narrow the focus and preserve a manageable study. The researcher will deliminate the study to participants within a 200-mile radius who previously were enrolled in the teacher preparation program at a four-year university. The study will be further delimited by the selection of participants who are in their first- or second-year teaching in a classroom at a Title One school. Selection of these participants will be those enrolled in one or more of

my courses and received a teacher certification in the teacher preparation program from that university.

Definitions

Desire 2 Learn (D2L): A learning management system that keeps all coursework, grades, and online education in an online atmosphere. https://www.d2l.com/higher-education/

Digital Literacy: The ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers (Glister, 1997, p. 1). It extends boundaries to the cognition of what you see on the computer screen when using the network medium (p. 2). To go beyond technical tool application, to more of an understanding of how to employ digital tools effectively (Lankshear & Knobel, 2008)

Digital Literacies – Understanding digital literacies as plural and wrapped in social, religious, and economic values, or doing-being value combinations. Digital literacies focus is on the students and teachers, the way they use attributes to communicate and collaborate within their communities. These attributes include: (a) inclusivity, (b) agility, (c) critically, (d) confidence, (e) responsibility, and (f) creativity (Robertson & Lange, 2017)

Information and Communication of Technology (ICT): Skills related to technology – web search, email, online discussion, text messaging. (Littlejohn, Margaryan, & Vojt, 2010).

International Society for Technology in Education (ISTE): An organization for educators that promotes the use of technology and defines the new skills and pedagogical

insights educators need to teach, work and learn in the digital age (ISTE @https://www.iste.org/standards/standards/standards-for-teachers)

Millennial – The population who were born between 1981-1996 (Pew Research, 2018).

National Educational Technology Standards (NETS): A set of technology standards developed by ISTE as a roadmap for preparing teachers, administrators, and students for the digital world (International Society for Technology in Education [ISTE], 2010).

Net Generation: The population who were born between January 1977 - December 1997, the first to grow up with digital media surrounding their every being (Tapscott, 2009).

Preservice Teacher: Individuals in a teacher preparation program at colleges and universities that want to teach in the public or private schools. These students have been accepted into an education program with specific coursework including pedagogy, curriculum training, technology, and specific P-12 content areas.

Self- efficacy - The way individuals gauge their competences in a specific subject. In this specific study, a teacher's perceptions or self-efficacy of their digital literacy and technology practices (Bandura, 1986).

Teacher Preparation Programs - Programs at four-year universities that prepare teachers for teaching in contemporary classrooms. Teachers prepare for classroom management, diversity, students', and literacy and learning. (Author).

Technology Tools: Resources to equip people with the ability to hunt out ideas for personal and professional advancement via networked computers. (Glister, 1997).

Title One School – Title I, Part A (Title I) of the Elementary and Secondary Education Act, as amended (ESEA) provides financial assistance to local educational agencies

(LEAs) and schools with high numbers or high percentages of children from low-income families to help ensure that all children meet challenging state academic standards. Federal funds are currently allocated through four statutory formulas that are based primarily on census poverty estimates and the cost of education in each state. (https://www2.ed.gov/programs/titleiparta/index.html?exp=0).

Organization of the Study

Chapter I introduced the background, statement of the problem, and the purpose of the study. This section introduced perceptions of my former preservice teachers understanding and uptake of digital literacies (both professionally and personally) during and after a teacher preparation program and provides a better understand their insights of digital literacies in the classroom in a Title One school. Chapter II provides a review of existing literature on digital literacies within teacher preparation programs, as well as examines research on digital literacy education in higher education classes and classrooms of Title One schools. Chapter III in the proposal described the qualitative collective case study design I would like to study including: (a) the research questions; (b) delineation of the participants; population; sampling; and ethical examinations; and (c) qualitative instruments, procedures, and data analysis procedures.

Chapter IV involved the methodological procedures in context, as well as an account of analyzing coursework questions from former preservice teachers. Chapter V provides a narrative of my coursework in a teacher preparation program. It also includes the types of assignments analyzed, with visual representations of the findings. Chapter VI begins with my romantic and social constructionist stance on interviewing and illustrates the detailed case descriptions of the participants.

Summary

Chapter I includes the background and purpose of the study of preservice teachers' digital literacies in a teacher preparation program. It also includes the problem, significance of the study, and the research questions that guide this study. The study is directed by a practical framework and a social constructivist theory. The chapter concludes with limitations and delimitations of the study, as well as a section of definitions for the study. The next chapter will serve as a review of the literature related to digital literacies of preservice teachers in a teacher preparation program, teachers' digital literacies in their own classrooms, and personal digital literacies of teacher educators.

CHAPTER II

Review of Literature

Introduction

The intent of Chapter II is to review existing literature on digital literacies within teacher preparation programs, as well examine research on digital literacy in education, both higher education classes and the elementary, middle, or high school classroom in Title One schools. In order to provide a concise definition of digital literacy, I do not limit my review of the literature to only research published in the last ten years. Some of the literature published in earlier years is seminal and helps to provide an understanding of the beginning of technology in education.

There are multiple studies that are over 10 years old, which offers the insight of the growth of technology and preparedness of teachers who were not raised with a technological background. Additionally, the relevance of course preparation for preservice teachers use of pedagogical technology and evidence of the trend of how technology has grown and been incorporated into instruction and pedagogy in the contemporary classroom suggests that my review of the literature should be comprehensive and include multiple modalities (see Onwuegbuzie & Frels, 2016 for more on Multimedia, Observations, Documents, Experts, and Secondary sources, MODES). The modalities I included are Multimedia (i.e., Washington Post, Twitter within D2L), Documents (i.e., Dissertations and Web 2.0 sources), and Secondary sources (i.e., Pew Research Center, ISTE Standards, 2018).

This research is based on my interest in preservice teachers and their understanding of their digital literacies both their understanding of integration

professionally, within their own teacher preparation program teaching, as well as their personal use and if and how that impacts their professional use. Archival data will be collected from the online learning management system (LMS) Desire 2 Learn (D2L), which includes online communication, reflections, class assignments, activities. I am also interested in understanding how my former preservice teachers (i.e., classroom teachers) are currently implementing digital literacies in their first- or second-year teaching in a classroom in a Title One school and how their personal digital literacies influence their teaching practices. Semi-structured interviews will allow me to best understand the nuances of the intersections and disjunctures that occur. Analyzing these data (archival data from the LMS and semi-structured interview data) will allow me first-hand knowledge of what type of digital literacy activities work within the online environment or face-to-face courses for preservice teachers, which will provide me the opportunity to adjust my teaching style and activities in my future classes.

Technology is ever changing and without preservice teachers' practice teaching with technology in their teacher preparation program, they would not be able to decipher their personal digital literacy use from any future professional digital literacies (Anderson & Horn, 2012). Therefore, preservice teachers who might be experts with technology or who are technology novices, should be able to have digital literacies modeled for them by educators in teacher preparation programs, showing them how to apply them to digital literacies in everyday and professional lives, possessing the necessary digital tools at their disposal (Anderson & Horn, 2012). "Knowing when, where, and how to use domain-specific knowledge and strategies for guiding students' learning with appropriate information and communication technologies" (Neiss, 2011, p. 299) was determined as a

need for teachers to know how to design, implement, and evaluate curriculum and instruction. Through this collective case study, I will evaluate past coursework and conduct interviews with my former preservice teachers (i.e., classroom teachers) to better understand their perceptions of their personal and professional digital literacies and what, if any, of these transferred over to their first or second years in the classroom at a Title One school[1]. The evaluations of the coursework will provide suggestions to future teacher educators the necessary skills to integrate digital literacies in their classrooms in a Title One school.

The chapter represents a review of the literature relevant to the study of themes that guide this chapter. These themes include: (a) the background of digital literacy, (b) history of Web2.0, digital literacy in higher and secondary education, (c) technology and pedagogy in Teacher Preparation Programs (TPP) courses, (d) preservice teachers' digital literacy self-efficacy in TPP, (e) teacher candidates (i.e., my former preservice teachers) digital literacy self-efficacy in the secondary classroom, and (f) Information Communication Technology (ICT) skills in the classroom. The research outlined in this chapter supports the ideas and importance of conducting the current and future studies. The relevant literature will be discussed, including limitations of the literature, therefore providing additional support of this current study.

[1] Footnote 1 - Title one schools are defined by Federal policy as school that receives federal funds for low-income students to assist in meeting their educational goals. These students are determined low-income by their enrollment in the free and reduced lunch program. The funds improve curriculum, instructional activities, counseling, parental involvement, and program and staff improvement (https://definitions.uslegal.com/t/title-1-school/).

Literature Review Process

Krejcie and Morgan's (1970) sample size chart provided that a good literature review should apply to the population (i.e. N) and the minimum number of abstracts (i.e., n) with the section of articles being N=1800, n=300. The beginning search for any related studies started with qualifiers and keywords dealing in digital literacy, digital tools, digital natives and immigrants; preservice teachers and teacher candidates; and secondary schools and higher education. Finding other information in the research process, I have since investigated digital literacies as a topic of this research study. Rephrasing the initial wording led me to a realization of inaccurate phrasing regarding the literature selected for this study. Case in point, digital native and digital immigrant were coined phrases from Marc Prensky (2001) to mean a person who was raised in a digital environment (i.e., native) and someone who was learning digital literacies at an older age (i.e., immigrant) (Prensky, 2001) The phrases are not so much incorrect, as much as they are not empirically supported, rather they are just a 'coined' phrase; age might not be a factor in determining digital native or immigrant.

After altering phrases from the initial audit trail, search qualifiers and keywords used were "digital literacy" AND "preservice teachers"; "digital literacy" AND "teacher candidates"; "digital literacy AND "secondary education"; "digital literacy" AND "preservice teachers" AND "secondary classrooms"; "digital literacy" AND "preservice teacher perception"; and "digital literacy" AND "higher education teacher programs." With the selecting/deselecting process (Onwuegbuzie & Frels, 2016), I established a criterion for selecting each source related to my research. Additionally, my research paradigm and world view of social constructivism, was instrumental in the selection and

deselection process. The number of articles that were returned in my search of databases was N= 459, therefore, according to Krejecie and Morgan's (1970) sampling theory, the number of represented abstracts to be sampled should be n= 216.

I used meta - reflection (Onwuegbuzie & Frels, 2016) to maintain ethical practices of copying and organization during the evaluation process of the comprehensive literature review. I took field notes, compared ideas between sources, and sought out limitations of sources during the audit review, and selection and deselection process. The audit trail was beneficial to me, as well as for others who will do future studies in the same research area. Therefore, from the sample of 216 articles and using the guidelines of the meta-reflection, I decided whether to include or exclude sources based on: a) digital literacy and preservice teachers within higher education TPP; (b) digital tools and preservice teachers within higher education teacher preparation programs, and (c) digital literacy practices in a K-12 classroom. I also applied Onwuegbuzie and Frels (2016) evaluation criteria based on these areas: (a) sound argument; (b) evidence; and (c) consequences (p.157). After the selection and deselection process using selected criteria, the table below gives an example of how I chose relevant articles out of the 216 articles, selecting 133 and deselecting 29 articles. Table 2 portrays the databases that were used in the search. Additionally, this comprehensive literature review has also allowed me to determine that I have indeed identified a gap in the literature and I am researching an area that has not been researched (the intersections and disjunctures between personal and professional digital literacies practices of Title I teachers after exposure to digital literacies in their teacher preparation program).

Table 2

Alternative Database Table

Data Base	Number of Hits	Sample Size
1. ERIC	130	120
2. Education Source	254	223
3. Teacher Reference Center	267	184
4. Literary Reference Center	141	101
5. Google Scholar	733	500
6. Library, Information, Science, and Technology Abstracts	245	197
7. Education Source	78	78
8. Education with full text HW Wilson	19	19
9. Topic Search	6	6
10. Professional Development Collection	13	13
11. Master File Premier	9	9
12. Library and Science Information, Science Source	7	7
13. Science Direct	5	5
Totals	1,732	1,368

Note: Table adapted from my Audit Trail assignments in doctoral course (2016).

History of Technology

In order to provide examples of the progress of technology, I created a timeline of the evolution of the web described in Table 3. This provided me with a history of the web and what apps students in the K-12 classroom might be using today. The next section will

provide six definitions of digital literacy, from Glister's (1997) conception of digital literacy, to as study from Levy and Simonsovsky (2016) that targeted 65+ year-old participants (i.e., "Third Age,") practicing digital literacies (Simonsovsky, 2016). Along with the timeline and definitions, there are valuated multiple studies that discussed digital identity, and transcultural literacy of digital literacies and their application in teacher preparation programs and classrooms in a Title One school.

Table 3

Timeline of the evolution of the web.

1990	**1995**	**2000**	**2005**	**2010**	**2015**
HTTP '91					
HTML '92					
Mosaic '92					
	Netscape '94				
	Opera '94				
		Hpml4 '98			
			Safari '03		
			Firefox '03		
				Chrome '08	
					Chromev.11 '11

Notes: Adapted from The Evolution of the Web, website.

.

Background of Digital Literacies: A History of Definitions

The history of digital literacies focuses on the reading concept as its first literacy. Glister (1997) defined digital literacy as "the usage and comprehension of information in

the digital age... the importance of digital technologies as an essential life skill" (p. l). Digital literacy expands the definition of basic literacy (i.e., being able to read and write) to that of (a) cognition - understanding what you see on the computer; (b) demands of the presence of the media newspaper, TV; and (c) challenges of no preconceived ideas of networked computers (Glister, 1997). "The skills of the digitally literate are becoming as necessary as a driver's license. The Internet is the fastest growing medium in history" (p. 2) which will affect personal and professional resources for learning and self-advancement (1997). Digital literacy was first defined as sitting down and reading a book or newspaper, digitally, mastering digital literacy skills using an alternative reading medium (1997), although it has grown into different literacy concepts over the past 20 years.

Digital literacy expanded from Glister's (1997) original definition with a focus on reading to the development into literacies of communication, writing, creating, and informational skills. Eshet-Alkali and Amichai-Hamburger (2004) represented digital literacies in a conceptual model. Their description comprised five major digital skills, listed as:

> Photo-visual skills ("reading" instructions from graphical displays), reproduction skills (utilizing digital reproduction to create new, meaningful materials from preexisting ones), branching skills (constructing knowledge from non-linear, hypertextual navigation), information skills (evaluating the quality and validity of information), and socio-emotional skills (understanding the "rules" that prevail in

> cyberspace and applying this understanding in online cyberspace communication) (p. 421).

These five digital skills of the digital literacy model can be compared to that of the educational levels of Bloom's Taxonomy - knowledge, comprehension, analysis, application, synthesis and evaluation (Bloom, 1956). Anderson, Krathwohl, Airasian, Cruikshank, Mayer, Pintrich, Raths, Wittrock (2000) revised the cognitive domain of new taxonomies that reflected a more active form of thinking and was perhaps more accurate with a new altered order: remembering (i.e., knowledge); understanding (i.e., comprehension); applying (i.e., analysis); analyzing (i.e., application); evaluating (i.e., synthesis); and creating (i.e., evaluation).

Leu, Kinzer, Coiro, and Cammack (2004) addressed that preparing students to become proficient participants in online networked environments, composing their digital identities, defining these digital literacies and composing their digital identities, can bring many challenges for education in the 21st century. Lankshear and Knobel (2008) reported digital literacy as the importance of developing innovative capacities and the ability to use the digital concepts as critical thinking tools, not just mastering a technical skill. With the help of researchers and reports from past studies, Lankshear and Knobel (2008) drew a more in-depth digital literacy definition that represented an acknowledgement of individuals appropriate use of digital tools to "identify, access, manage, integrate, evaluate, analyze, and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others" (p. 167). This concept was further explained by the researcher in this chapter as having three levels: (a) digital competence (i.e., skills, concepts), (b) digital usage (i.e., professional application), and (c) digital

transformation (i.e., innovation). Lankshear and Knobel (2008) delivered this discussion from the movement of listening skills to that of digital literacy as a model of the growth of individuals in their role of the digital, as "student, as worker, as person" (p. 173).

While educators are teaching their content with the traditional methods of lecture and PowerPoint and focusing on technology tools learned in teacher training (Harris, Mishra, & Koehler, 2009), students in contemporary classrooms of today are using digital literacies to support their everyday learning needs. They have unlimited access and exposure to digital information and apply digital literacies as survival skills that provide learners with quality, educated information (Eshet-Alkali & Amichai-Hamburger, 2004). This information will be analyzed through my research including case studies using data from my coursework and discussions during interviews with my former preservice teachers.

Tapscott (2009) suggests that students should be the focus of education today, a focus like that of a customer. "Focusing on the customer requires a deep change…a changing relationship between student and teacher in the learning process" (p. 130). Tapscott (2009) advises listening and conversing, adopting an interactive type of curriculum where the student is encouraged to discover, learn, and think critically on their own. Other educators including librarian Richard Sweeney says, "the model of education has to change to suit this generation of students…they like to collaborate and learn only what they have to learn, and they want to learn it in a style that is best fit for them" (Tapscott, 2009, p. 130). This type of learning style, which I have observed from my own daughter, nephew, and nieces, is digital, and their personal lives are embedded with digital literacies inside and outside of the school setting.

Integrating technology in a classroom dates to 1910 (Cuban, 1986), when a motion picture was used to assist in classroom instruction. From the use of motion pictures, to email, social media, and daily blogs, the question remains the same: What can teachers do to improve student knowledge and achievement while integrating technology? (Spazak, 2013). “Passing on knowledge is the force that drives the engine of instruction” (Cuban, 1986, p. 3) and “better ways to increase student knowledge are at the core of why integrating technology in the classroom remains crucial” (Spazak, 2013, p. 4). Cuban (1986) expressed lack of instruction of equipment, the inability to connect subject areas to appropriate technology, and teachers’ perceptions (i.e., self-efficacy) of their technology skills as the obstacles that prove to hinder appropriate technology application in the classroom.

“Beliefs are the best indicators of the decisions individuals make throughout their lives” (Pajares, 1992, p. 307). He furthermore noted the connection between teachers’ beliefs and their subsequent planning, pedagogy and practice. In their critique of epistemological beliefs in teacher education, Brownlee, Purdie, and Boulton-Lewis (2001) argued that “teacher education courses must provide opportunities to support pre-service teachers to ‘develop sophisticated beliefs about knowing” (p. 262). While the former issues with technology and connected teacher beliefs aligning with their planning are up to 30 years old, the same issues arise today with the discussion of planning, instruction, and technology implementation in education (Boksz, 2012).

In McLean’s (2010) case study, one participant reflected on how she used digital literacy practices to compose her identity, therefore providing another aspect of digital literacy, digital identity. The goal of the study was to provide teachers with ideas to

create meaningful learning experiences with digital literacy and understand their students and their ways of knowing in a digital environment. Teacher preparation programs need to provide teachers and students opportunities to study ICT and assess their digital literacies, transcultural literacies, and digital identities to match those tools (Nicholson & Galguera, 2013). A qualitative study by Kim (2015) sought to further the definition of digital literacy, suggesting that digital literacy is transcultural, as cross-border connections of individual identities of students in online spaces enhancing the concept of "global flows and local responses" (Gerber, 2016, np). This example of using digital literacies crossed online space forums, Korean Drama, DramaCrazy.net and applied an unobtrusive (i.e., no direct contact with participants) method to collect data. Kim (2015) collected pre-recorded data of writings, visual images, and interactions between participants. Findings supported the idea that transcultural literacy allowed students to cross online spaces, providing students the opportunity to inquire cultures, language, and knowledge of another culture. Kim (2015) also identified the use of new media to "learn, imagine, and create knowledge that traverses national borders (p. 199). These transcultural digital literacy interactions provided active learning, which is seen in K-12 classrooms today (2015).

Levy and Simonovsky (2016) targeted a "Third Age" in their qualitative study of 65+ year-old participants combining two worlds: the older population (i.e., third age) and digital technology tools (i.e., iPads). Nine participants used an iPad for two years; additionally, one participant was the iPad applications developer. Ethnographic observations and open interviews for data collection of the participants showed that the tablet's' touch screen was useful and insightful for discovery and personal, family, and

social use, as well as professional activities. The findings described the participants as (a) open to technology changes, (b) incorporating the iPads into their everyday personal and professional lives, and (c) using them as time management tools. The data also unlocked new ideas on old perceptions of the older generations' aging and old age limitations. These findings supported Glister's (1997) addition to the definition of digital literacy, that digital literacy is the ability to access and use information on networked computer resources. This study by Levy and Simonovsky (2016) provided evidence that all ages of technology participants can access and use devices for multiple personal and professional reasons.

From Glister (1997) to Levy and Simonovsky (2016), research has provided a broad examination into defining digital literacies over a 20-year period. As I investigated possible threads of digital literacies, the literature contributed the importance of digital literacy skills in everyday lives of teachers and students. These threads also addressed the skills necessary to be equally digitally literate personally and professionally. One study brought to light how transcultural literacy allowed students to cross cultural online spaces that provided students the opportunity to inquire cultures, language, and knowledge of another culture including barriers and the importance of providing training beyond the sharing stage (Kim, 2015). This could benefit future research studies. The next section involves relevant literature to support Web 2.0.

Tablet Pilot Program

There are many universities who have had tablet[2] pilots in the last couple of years. With student success and innovation in mind, Mid-South University launched its own tablet pilot. In the fall semester of 2014, the VP of Academic Affairs asked a team of individuals to investigate the feasibility of Mid-South University going "all in" with a mobile device initiative. Members of various areas of the university assembled to gather information from other institutions and existing research. During this process a group of faculty members were selected to participate in the pilot. There was no formal application process rather faculty were chosen based on their interest in participating and recommendation from their department. Mid-South University made the decision to pilot two different tablet devices with five faculty members for students in their classes. One hundred and forty-two devices were distributed to students. This included 72 Surface Pro 3's and 60 iPads. These numbers were based on projected enrollment and device selection.

"Let's get laptops and the Web into classrooms so that teachers can be freed to customize a learning experience rather than being forced to remain broadcasters of information" (Tapscott, 2009, p. 291). However, research indicates that very few university teacher preparation programs prepare pre-service teachers to embed these types of internet-mediated, digital learning experiences in their teaching practices (Banister & Vannatta, 2006; Burnett, 2011; Duncan-Howell, 2012; Hundley & Holbrook, 2013). The International Literacy Association (ILA) stated, "The ability to read, write,

[2] A tablet is a portable, wireless, hand-held computer with a touch screen interface. Typically, the tablet is larger than a smartphone, although smaller than a laptop or notebook computer. https://searchmobilecomputing.techtarget.com/definition/tablet-PC

and communicate connects people and empowers them to achieve things they never thought possible" (ILA, 2018).

The students (i.e., my former preservice teachers) were provided the option of choosing between the two tablets, as well as a choice of keyboard and protective case covering. Tablets were used for professional, educational, and personal use, and according to the preservice teachers, used in other coursework and personal preferences. The preservice teachers were asked to provide benefits and challenges of integrating mobile devices into the learning environment and on whether/how mobile tablet usage changed the teaching and learning processes through pre and post questions. The students were given the devices for use during the semester with the option to buy them at ½ price following the ending of the course. The Surface Pro 3 used by the preservice teachers was a tablet introduced by Microsoft's Windows8/RT in October 2012. Its features included a magnesium enclosure, a kickstand for upright access, and front and rear webcams. The Surface portrayed a 10.6-inch touch screen is scratch- and impact resistant (i. e., Gorilla Glass), weighing nearly two pounds and is .36 inches thick. (https://www.webopedia.com/TERM/M/microsoft_surface_tablet.html). Figure 1 is my Surface Pro 3 from Microsoft.

Figure 1. Photograph of the Surface Pro 3

The iPad Air 2 used by some of the preservice teachers was a tablet originally used for browsing the web, listening to music, reading e-books, etc. Similar to the Surface, the iPad also had a multi-touch screen being 9.7-inches with a weight of 1.5 pounds. (https://everymac.com/systems/apple/ipad/ipad-faq/what-is-ipad-differences-between-configurations.html). The students had a choice of the Surface and the iPad. Half of students ended up choosing the Surface Pro 3 and the other half, the Apple iPad Air 2. Students who selected the Surface Pros were said to have chosen it because they "wanted a challenge of using a new device, and we already own an iPad" (Mid-South University, 2014; D2L). The iPad were selected by those students who said "we have knowledge of the iPad and want to stick with the technology tool we know" (Mid-South University, 2014; D2L).

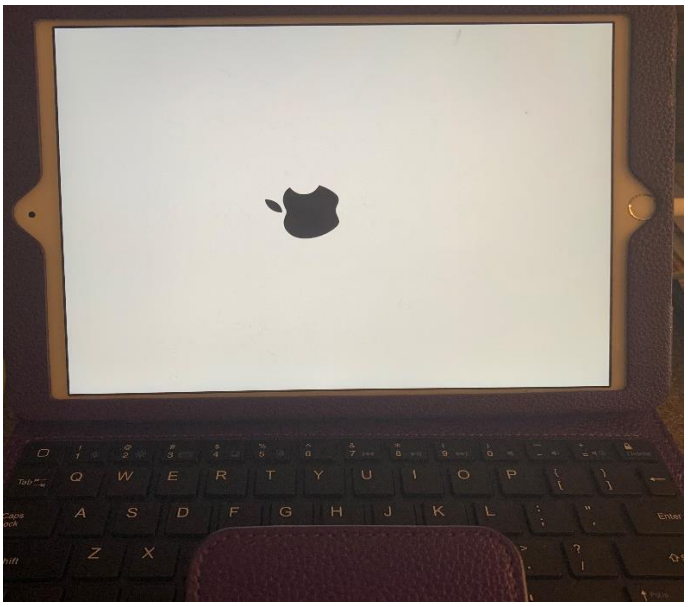


Figure 2. Photograph of my iPad Air 2.

My former preservice teachers were required to investigate methods for using their electronic devices for personal (i.e., social media, emails, texting), as well as professional (i.e., presentations, notes, lesson plans) applications. Through online

introductive questioning about their technological perceptions, the preservice teachers discussed their anxieties and fears at the onset of the course. The perceptions that the preservice teachers provided me (i.e., researcher and course instructor) opportunities to change my instruction and methods to remodel digital literacies for personal and professional application, as well as implementation into course curriculum and their future pedagogy as educators. After this project was completed, I decided it would be beneficial to look at my own digital literacies within the coursework, determine if they need to be altered and remodeled, and then conclude with how digital literacies are defined and managed after coursework.

History of Web 2.0

Fischer-Baum (2017) of the Washington Post provided an interactive website with how technology has improved over the past three decades which included: (a) how people watched videos; (b) who had Internet access; (c) how people listened to music; (d) who had cell phones; and (e) 30+ years of mobile phone design. Once a viewer gets on the site, they place their birth year in the graphic and roll the mouse over their perceived ideas of "what tech world they grew up in" (Fischer-Baum, The Washington Post, 2017). I used 1970 for the example of this in Table 2.3, which provides the 'tech world' in which I grew up.

Table 4

Application of Reuben Fischer-Baum's What 'Tech World' did you grow up in?

	1990	2005	2015
How did people watch videos?	Tapes – 100% DVDs – 0% Digital – 0%	Tapes – 10% DVDs – 87% Digital – 4%	Tapes – 0% DVDs – 50% Digit – 50%
Did people have internet access?	No internet – 100% Slow internet –0% Home Broadband - 0%	No internet – 32% Slow internet – 34% Home Broadband – 34%	No internet – 14% Slow internet – 17% Home Broadband - 69%
Did people have internet access?	No internet – 100% Slow internet –0% Home Broadband - 0%	No internet – 32% Slow internet – 34% Home Broadband – 34%	No internet – 14% Slow internet – 17% Home Broadband - 69%
How did people listen to music?	Tapes – 62% Vinyl – 5% CDs – 34% Digital – 0%	Tapes – 7% Vinyl – 1% CDs – 92% Digital – 2%	Tapes – 0% Vinyl – 1% CDs – 10% Digital – 89%
Did people have cell phones?	No cell phone – 96% Cell Phone – 4% Smart Phone – 0%	No cell phone – 35% Cell Phone – 65% Smart Phone -1%	No cell phone – 8% Cell Phone – 19% Smart Phone – 72%

Note: Adapted from Fischer-Baum, Washington Post (2017) How technology has

Over 10 years ago, Maness (2006) insisted that scholars rethink Web as Web 2.0. Maness' theory was specific to librarianship (i.e., theory for library 2.0) as having significant changes for libraries. The involvement of Web 2.0 technologies allowed changes for libraries' access to collections and support for its members. These Web 2.0 technologies included messaging, media streaming, social networks, blogs, RSS feeds, tagging, and mashups. In Brown's (2010) study, he suggested the application of Web tools such as Facebook (circa, 2004),), Flicker (circa 2017), and YouTube(circa 2005) to encounter a fundamental change in e-learning. In a similar study, O'Conner (2010) used wiki-tools with preservice teachers to prove the importance of utilizing technologies in teacher preparation program for preparation of their professional careers.

An increase in research of Web 2.0 was evident in Greenhow, Robelia, and Hughes' (2009) study, recalling how the impact of this research affected learner participation and creativity, and online identity formation. Brown (2010) added the importance of scaffolding content and the learning process in his study, along with the necessity of developing an online presence for teachers and students. Other researchers studied the use of technologies in knowledge sharing, however, constructing new in-depth knowledge was limited in Hou, Chang, and Sung's (2009) study of teachers use of blogs. Interactive activities (i.e., data mining, peer evaluations or tutoring, and problem solving) for these Web 2.0 tools were found necessary to ensure the learning beyond the knowledge sharing stage (Hou et al., 2009).

Boulton and Hramiak (2014) collected data from the participants in their last education course and first year of teaching at two universities in the United Kingdom. The purpose of the study was to observe preservice teachers in their TPP using technology and identifying any connections of learned technology behaviors being put into practice once a certified teacher. Barriers of incorporating Web 2.0, specifically blogging, included instructional time, pupil skills, and lack of support early-on in the pedagogical programs. This research concluded that early training and preparation should accompany preservice teachers on into their first few years in the classroom (Boulton & Hramiak, 2014).

It is the premise of my study to understand and eliminate barriers that continue to plague preservice teachers and teachers (i.e., curriculum time, lack of support, and constructing new knowledge) by providing early training and preparation to have pedagogical skills necessary for digital literacies in their classroom instruction. With the

assistance of Web 2.0 tools (i.e., technological activities), my study is for researchers and educators who are expanding their learning beyond just the sharing knowledge of technology tools. My study will portray the necessity regarding providing training during their TPP that will cascade into their early years of teaching once qualified. The next section discusses literature regarding the necessity of early professional support and development in TPP and preservice teachers own self-efficacy regarding innovative use of digital literacy in education.

Teacher Preparation Programs

Higher education teacher preparation programs offer preservice teachers' early exposure to a real-world classroom experience and a foundation of knowledge about pedagogy and subject matter (Feuer, Floden, Chudowsky, & Ahn, 2013). The following literature review will offer insight to technology and pedagogy in teacher preparation program (i.e., specific to one's coursework), preservice teachers' digital literacy self-efficacy in a teacher preparation program, and preparedness in higher education, teacher preparation program classrooms. It is the researcher's hope that the literature will show the areas of needed improvement in teacher preparation programs, preservice teachers' thoughts of how they need to improve their digital literacy practices, and early training in teacher preparation programs.

Technology and Pedagogy in Teacher Preparation Programs

In a qualitative research study, Joosten et al. (2013) researched ways to understand how institutions are guiding the use of social media by students, staff, and faculty in the areas of student services and support, business services and operations, instruction, and research. Participants including administrators, staff, teachers, faculty,

students, and others who use social media in the university environment, answered a survey about media use. The researchers found that social media was helpful in increasing the effectiveness of the university's communication to their community, taking the place of radio stations, television news programs, etc., and allowing the university community to connect with each other in new ways (Joosten et al., 2013).

Rosaen and Terpstra (2012) developed The New Literacies Project to assist preservice teachers' expansion of their ideas of literacy and knowledge of incorporations of new literacy, including digital literacies, pedagogies into their teaching and learning. Results of their study demonstrated a lack of fully applying technology and digital literacies into their planning. Although, the understanding of the concepts of literacy, including digital literacy, was present in The New Literacies Project. Therefore, these researchers uncovered a need for future research and conversations about preservice and teachers' own pedagogical encounters for preparing authentic learning outcomes involving digital literacy practices.

With proper training for all individuals involved, Joosten et al. (2013) concluded that social media would benefit the community by increasing the connections within. The New Literacies Project (Rosaen & Terpstra, 2012) also alluded to the benefit in providing training or assistance for preservice teachers' digital literacy pedagogies. Understanding the importance of social media and its connection of students and teachers and how they communicate is a purpose of this study.

Preservice Teachers' Digital Literacy Self-Efficacy (in Teacher Preparation Programs)

Bandura (1977) proposed a model of personal efficacy with four sources: "(a) performance accomplishments; (b) vicarious experiences; (c) verbal persuasion; and (d) physiological states" (p. 191). While this model represented personal efficacy (i.e., self-efficacy) as a unifying theory of behavioral change, self-efficacy in teacher preparation programs provided results of how teachers perceived themselves as technology participants. Teacher candidates in Turkish and English language departments at the universities in Cyprus were surveyed on their perceived computer self-efficacy and their attitudes towards the computer by two attitude scales (Adalier, 2012).

Grounded in theories of literacy as a social practice and defining how digital literacies are multimodal and a social practice, Lewis and Fabos' (2005) study provided their viewpoint on Instant Messaging (IM) and how social identities were shaped by this medium. Seven young adolescent participants were videotaped in semi-structured interview groups, individual interviews, and follow-up interviews asking: (a) general appeal and procedural matters (i.e., time spent IMing); (b) any peer and parent issues; and (c) style (i.e., word choice and tone) of the features of IM. Qualitative coding analysis procedures and triangulating across interviews, video sessions, and researcher's interpretations, led to the patterns of language, social, and surveillance functions of IM. The researchers wanted to know from these participants: what was the impact of IM, what was the purpose of this digital literacy, and how did they find IM most compelling? Their research questions led to findings related in patterns of circulation and the hybrid nature of textuality in IM, and they envisioned IM teaching and learning of literacy in a new conceptual direction for these "digitally mediated times" (Lewis & Fabos, 2005, p. 471):

> When technology becomes ‘normal’ in this way, it is no longer complicated, nor is it notable to its users. It is a fact of life, a way of being in the world, a producer of social subjects that find it unremarkable—so unremarkable that it seems ‘everybody does it’ (p. 470).

Jacobs (2006) also sought only to define the use of IM as how adolescents were being “wired” today with instant messaging technology and discussed the historical and social purposes of the conventions commonly associated with instant messaging. This qualitative study was created to provide evidence from theoretical insights by the New Literacy Studies (NLS) that IM is a social practice linking cultural ways of knowing and making meaning to more than a technology. The findings to an approach to literacy and technology indicated a shift in looking at the specifics of technology to how the activities in using technology are culturally meaningful. “If we think in terms of the practice of textual consumption, production, and distribution, then we are not limited in our tool use and can move toward a meaningful integration of technology into instruction” (Jacobs, 2006, p. 192).

Marsh (2006) studied the use of popular culture in a preservice teacher course to enhance and motivate readers’ text reading for in-school literacy practices. Data were collected from group and individual interviews and analyzed using inductive coding for emerging patterns. The voluntary participants discussed their (a) processes and outcomes of popular culture in their teaching placements, if any, (b) their beliefs in connecting popular culture to literacy curriculum, and (c) their personal school experiences and attitudes of future teaching placements regarding popular culture (Marsh, 2006, p. 167). Results indicated a positive use of popular culture when using it for motivation and

schooled literacy practices, although not in enhancing critical literacy or developing skills to the production and analysis of media texts.

Banas (2010) used a qualitative approach at measuring the attitudes of preservice teachers or practicing teacher's attitudes of technology expertise. The study determined the best way to teach TPACK related instruction and interplay of content, technology, and pedagogy of teachers, as well as how to share and foster that comprehension to their preservice students. Providing opportunities for preservice teachers to use their technology expertise or TPACK in a higher education setting course supported Banas' (2010) study that resulted in more than half (i.e., 52%) having positive feelings and were integrating technology in instruction. Twenty-eight percent had positive feelings, although reported obstacles in integrating technology, while 13% fully integrating technology into their curriculum, and 7% were not using technology at all (2010).

The "Perceived Computer Self-Efficacy" scale developed by Aşkar and Umay and the "Attitude Toward Computer" scale developed by Aşkar and Orçan were used for self-selection of collected data. The results of this scale demonstrated significant differences in English proficiency in attitudes towards computers between the participants (Adalier, 2012). In the same way, there were differences in (a) age, (b) computer skill perception, (c) department, (d) socioeconomic status, and (e) English proficiency level according to perceived computer self-efficacy. These researchers discovered a medium level of positive difference between computer self-efficacy and attitudes towards the computer in the results of that study.

Giddens' (1991) self-identity work was used to highlight Burnett's (2011) paper on the significance of teacher identity and disconnect between digital literacies within

and beyond school. It investigated preservice teachers' perspectives on digital literacy practices in their personal and professional lives. Burnett (2011) suggested individuals engage in context-specific identities reflective in digital literacies and to maintain a self-narrative, engaging in specific new technologies. This digital experience demonstrates why skills and viewpoints correlating digital literacies do (or do not) survive the transition to educational contexts (2011). Preservice teachers had a positive attitude towards technology, with a medium viewpoint in technology competency in Çetin, Çalışkan, and Menzi's (2012) qualitative case study. Both Burnett (2011) and Cetin et al., (2012) agreed that digital literacy practices should be experienced across different areas of preservice teachers' and teachers' lives, both personally and professionally, to make the most of new technology pedagogies of investigation and development. Studying a TPP and its digital literacy and technology components will help higher education teachers adjust their curriculum to meet the needs of preservice teachers' digital connections with their students in contemporary K-12 classrooms (Burnett, 2011; Cetin et al. 2012).

Kim and King (2011) viewed the perceptions, attitudes, and actions of English for Speakers of Other Languages (ESOL) teacher candidates about podcasting and blogging for an assignment in a preservice education course. The assignment was to create an English Language Learner (ELL) case study including a real-life classroom environment. A purposive sample of three candidates from the program was chosen and their findings included blogging and podcasting as effective and engaging digital tools with the ELL students now and for future opportunities with adolescents. The teacher candidates also continued to develop their professional identities and reported that the future young

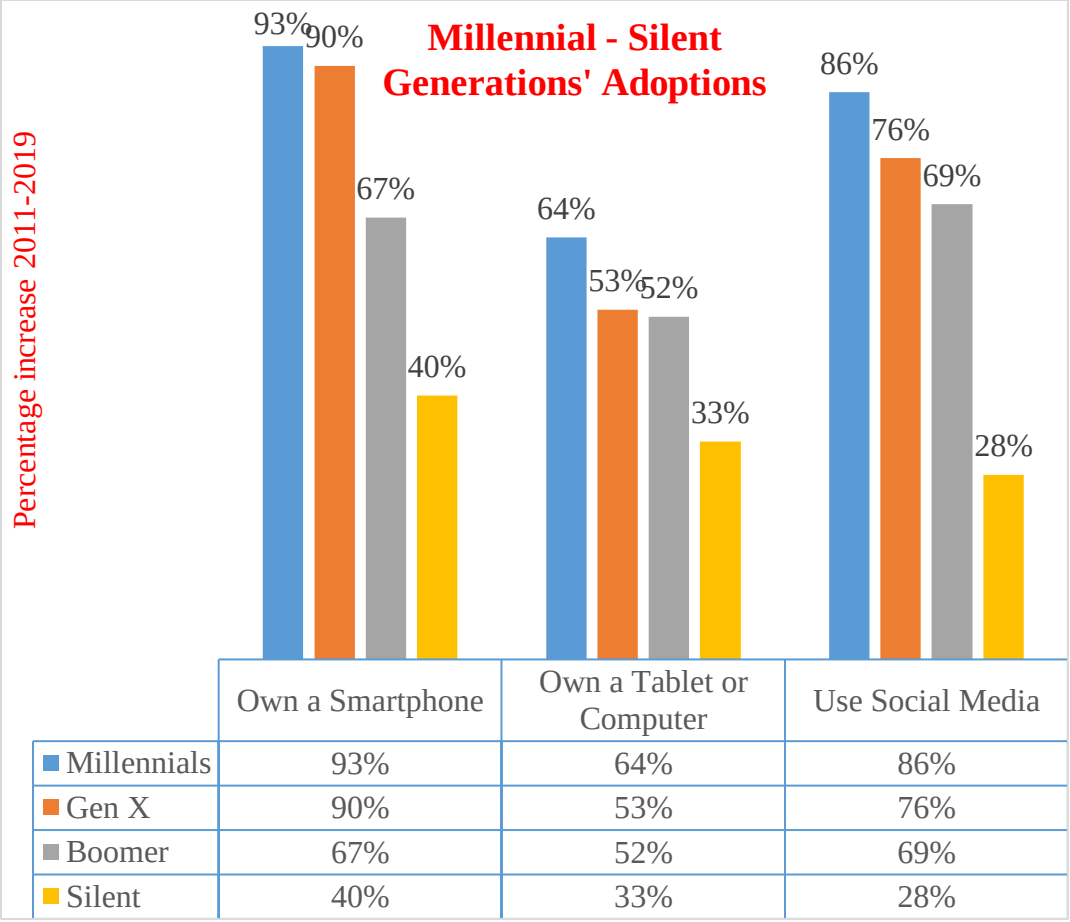
people they will teach are already digitally literate, so they should have the literacy and tools ready to prepare their future classroom (Kim & King, 2011).

Higher education institutions, like those studied by Joosten et al. (2013) and Kim and King (2011), guided the use of social media (i.e., blogging, podcasting) by students, staff, and faculty in the areas of student services and support, business services and operations, instruction, and research. The researchers found that social media is helpful in increasing the effectiveness of the university's communication to their community (Joosten et al., 2013; Kim & King, 2011). Social media is taking the place of radio stations, television news programs, etc., and allows the university community to connect with each other in new ways, which benefits the community. With proper training for all individuals involved, social media will benefit the community by increasing the connections within (Joosten et al., 2013). This training can lead to the digital literacy practices needed to keep up with students and their digital literacy needs in and out of the classroom (2013).

Understanding preservice teachers' mindsets of their personal digital literacies and how to bridge the gap between their personal lives and professional studies, could help higher education as well as K-12 teachers connect to students. Researchers Roach and Beck (2009) questioned if and how we have connected teachers' outside school knowledge (i.e., personal literacies) to their inside school intersections of pedagogy (i.e., professional literacies). "Before coffee, Facebook, we propose that new literacy learning is as close as their own screens" (2009, p. 244). These researchers mentioned older and newer teachers should be embracing how writing and learning takes on a new meaning; a meaning that guides this generation by their own set of conditions (Brandt, 2010). In their

study, Roach and Beck (2009) provided ways new literacies experiences could and should be connected in order to embark with new literacies pedagogy. When combing factors of experiences and pedagogy, main points arose regarding how teachers and students should: a) communicate globally in the networked world; b) be mindful of the people they address or exclude; c) develop privacy in their digital environment; and d) adopt a critical disposition of intersections of literacy and technology (Roach & Beck, 2009). They compared new literacies experience to outside school knowledge versus new literacies pedagogy as inside school pedagogy. Therefore, the question remains, are we making connections of the two?

Pew Research (2019) indicated more than 93% Millennials (i.e., those turning 23-28 this year) are the largest age group that use and have smartphones. Forty percent of Silent Age (i.e. born 1945 and earlier) consumers own a smart phone, while Baby Boomers (i.e., 1946-1964) are at 68% of smartphone use, and Gen X (i.e. 1965-1980) smart phone owners are right there with Millenials at 93%. Millennials are the lead on other technology adoption measures, such as owning a tablet or computer, as well as using social media. Figure 3 provides a visual of these consumers and their adoptive practices of smartphones, tablet computers, and social media.



	Own a Smartphone	Own a Tablet or Computer	Use Social Media
Millennials	93%	64%	86%
Gen X	90%	53%	76%
Boomer	67%	52%	69%
Silent	40%	33%	28%

Figure 3. Adopted from Millennials and other consumer technology adoption (2019) Pew Research. The percentage portrays the increase from 2011 - 2019.

The rise Social Media use of the older generation is represented in Figure 4. Facebook practice increased in both SilentAge and Baby Boomers. Although Millennials are still on the top, Silent and Boomer both heightened their Facebook use by double digits since 2015.

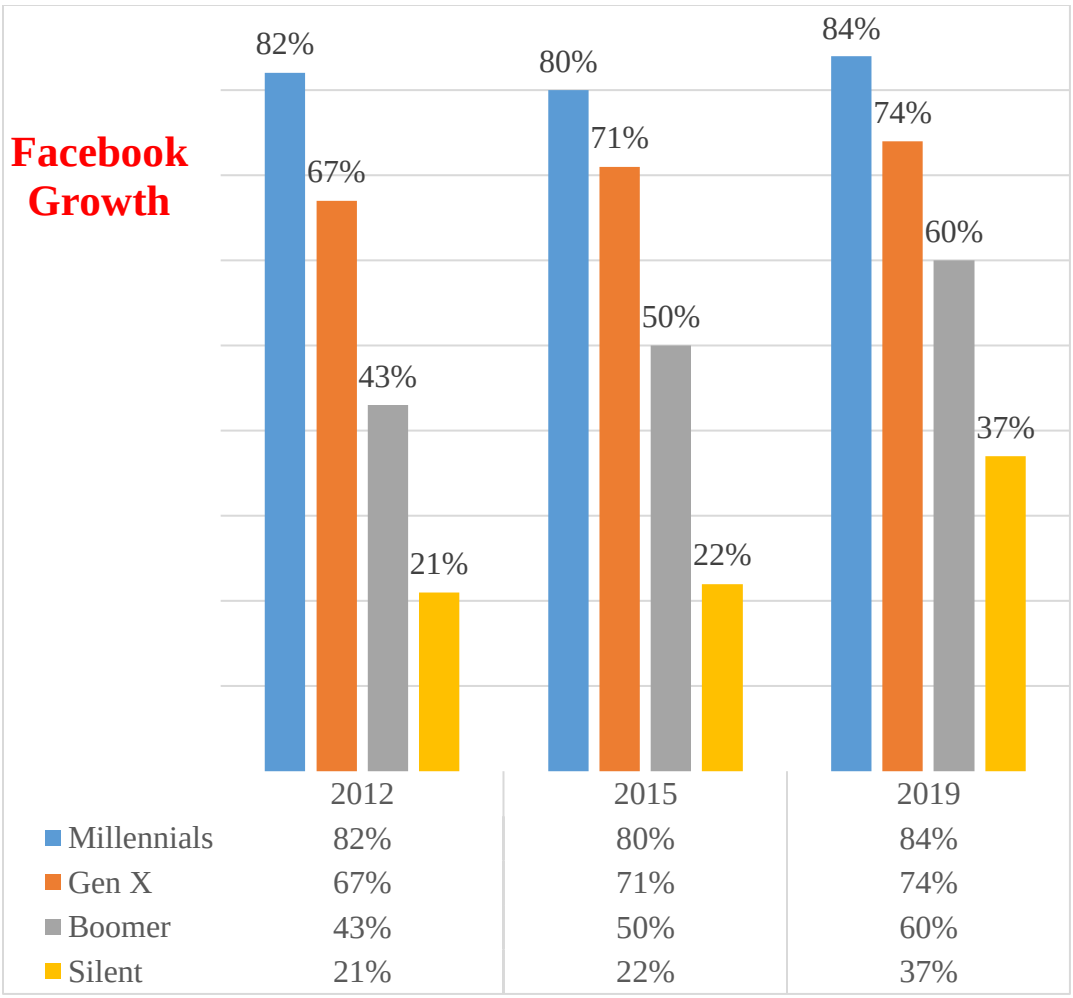


Figure 4. Adopted from "Millennials Stand Out for Their Technology Use, but Older Generations Also Embrace Digital Life." Pew Research (2019). This shows the rise in Facebook use for for older generations.

Both figures are representative of adoptions and use of technologies for all generations, showing that Millennials still hold the lead. However, Gen Xers and Baby Boomers portrayed significant growth in these areas. Adopting technology and use of social media (i.e., Facebook) increase in all these generations are important to preservice teachers' personal use of digital literacies and technologies. The Pew Research (2019) article also discussed home broadband use among Millennials, 78%, Gen Xers, 78%, and Boomers 74%. While this research does not mention the word 'personal' regarding use of digital literacies and technologies, having home broadband accessibility can provide personal

opportunities for technology and social media, separate from professional applications. Many preservice teachers fall in the classification of Millennials, fewer fall under Gen Xers.

Researchers Roach and Beck (2009) along with Pew Research (2010, 2019), provide multiple areas of connecting personal literacies to those of professional ones. The study of Roach and Beck (2009) referred to people having multiple positions. Their participants were using social media, shifting between these positions: a) a teacher; b) a sister; and c) a friend. Knowing that teachers and students alike, will have multiple social positions, teachers can make necessary actions to assist students to connect personal positions to professional views. The researchers in Roach and Beck (2009) were also participants in their own study. Beck recalled adding some of her students on Facebook, who requested to be her friend. While she knew the risks, she created a 'teacher profile' and used that to list music and movies she liked, her interests, and status updates, always with students in mind. tailored for her students. Her teacher profile gained more activity than her others; therefore, decided having two profiles (i.e., positions) helped connect the lines between personal and professional to remain constant.

> Perhaps these students trusted me not simply as their teacher, but as a human being with some depth and complexity, with interests that reach beyond textbooks and construction paper (pp. 249).

Seventy-five percent of Millennials have social media websites and half of those visit their social media daily (Pew, 2010). During one of the conferences researchers Roach and Beck (2009) were presenting, the younger (i.e., Beck) of the two tweeted the presenter (i.e., Roach) during the conference. Beck was using Twitter to broadcast her

colleague's information, to inquire about her findings. Roach, the older teacher replied, which led to their professional development ideas:

> I was floored at how quickly my ideas could travel through Twitter, reaching audiences far and wider than my safe little handouts. Seeing my ideas broadcast that way, I felt suddenly famous and suddenly shy (pp. 245).

Adopting technologies, social media, and profiling multiple positions can be ways teachers can connect their personal literacies to their professional ones and demonstrate how to do the same for students in their classrooms.

Bennett (2014) explored students' digital literacies through a framework to measure teachers/lecturers' digital literacy practices. The digital concept Web 2.0 was used in a higher education setting to determine if teachers/lecturers were meeting the needs of digital learners in their pedagogical practices (Bennett, 2014). The Web 2.0 concept study found the Digital Literacies Framework by Sharpe and Beetham (2010) had usefulness in many regards, although these lecturers were mainly motivated by the desire to achieve their pedagogic goals rather than by a desire to become a digital practitioner (2014). Studies by Banas (2010) and Bennett (2014) supported the necessity of pedagogy technology integration into the curriculum, with the feelings of middle to low computer self-efficacy by teachers and preservice educators.

Lewis (2014) conducted research of affinity spaces, and how to construct the skills necessary to shape literacy practices from the home to the digitally mediated environments, such as education. Blogging created affinity spaces for conversation and digital literacy practice in this qualitative, empirical study, to demonstrate how educators,

literacy researchers, and parent, family and community advocates should be practicing digital literacies in their own lives. IM and blogging use in many students' out-of-school lives gave them the affordance of staying socially connected to their peers and the world around them (Lewis, 2014).

Pop culture, IM, blogging, and podcasting are all social media, digital tools that students are familiar with and have access to in their everyday digital lives. Jacobs (2006), Joosten et al. (2013), Kim and King (2011), Lewis (2014), Lewis and Fabos (2005), and Marsh (2006) were researchers who provided studies that demonstrated the importance of preservice teachers' self-efficacy of computers and preparation to use these and other digital literacy practices in their personal and professional coursework. The following section discusses how and if preservice teachers are feeling prepared to teach with their learned knowledge in their teacher preparation programs.

Preparedness in Teacher Preparation Programs

Researchers reported on teacher preparation programs with respect to technology and pedagogy, technology integration in the public schools, and technology competency success. Although Snider's (2002) article is over 18 years old, it sheds light about individual attitudes and perceptions of technology integration. Snider (2002) included the need for the emphasis on technology integration instruction in teacher preparation programs. This need of teacher preparation program emphasis on integration of technology instruction is relevant in the literature today (Anderson & Horn, 2012; Miller, 2012).

Anderson and Horn (2012) discussed the need for more symbiotic relationship between technology and pedagogy for higher education in their quantitative study.

Students' academic and personal technology use in a community college and those transferring to a 4-year university was expanded using original research and an already developed College Student Experiences Questionnaire (Strayhorn, 2006). This longitudinal data provided valuable information to community college and university administrators, staff, and students on how to narrow the margin of high to low technology participants, examining information literacy skills and educational gains in community college students who intend to transfer to a 4-year college or university.

Other areas in literature that support the need for technology integration in teacher preparation programs, to allocate for a development in digital literacy, were cited in multiple research studies (Bell, Maeng, & Binns, 2013; Jimenez & Corral, 2012; Miller, 2012). Participants in Miller's (2012) study used mobile tablets to enhance their teaching and learning in the teaching areas of music, communication studies, English, and physical education. The focus was on preservice teachers' perceptions of the learning experience rather than the faculty use and incorporation of technology in the classroom. The research inferred the preservice teachers expressed a clear acceptance of the IPad as learning tools and the perceptions of their own learning experiences as overall positive (Miller, 2012). Participants in this study also had negative comments about digital literacy integration and lack of classroom focus in leu of technology. Future studies would be to include how to keep the tablets from being a distraction, what to do if they did not work properly, and how to keep focused when using technology (2012).

Bell et al. (2013) set a goal to reform science-based instruction with a technology infrastructure. Preservice teachers used digital images, videos, animations, and simulations in their student teaching for support in inquiry instruction and to enhance

student engagement. Participants of Bell et al. (2013) summarized features of the teacher preparation program that helped them to effectively integrate technology into their instruction were those lessons in which technology was modeled in instructional approaches, collaborating with peers, and feedback after teaching lessons. Future research on situated learning theory may provide ways preservice teachers can be prepared for reform-based instruction with integration of technology (2013).

Educators today did not grow up using technology and were not taught with technology therefore they do not have the skills and knowledge necessary to teach and incorporate it into their curriculum (Lei, 2010). In the empirical study by Lei (2010), he argued the relationship between technological practices and student outcomes was determined upon quality of technology use, not quantity. The quality of technology used by the 7th and 8th grade participants and their teachers in this (2010) research provided a significant relationship between how technology was used and student learning. Although, there was not a significant effect on the students' GPAs, these finding suggested that teachers should be realistic in technological use in the classroom, paying close attention "on the quality of technology use, how is it being used, what technology is used, and for what purposes" (2010, p. 468).

Teachers need to infuse emerging technological literacies into their curriculum and daily activities (Darling-Hammond, Banks, Zumwalt, Gomez, Sherin, Griesdorn, & Finn 2005), therefore for teacher preparation programs to "ensure that teachers know how to use the technologies that are part of the professional communities of practice, they, too need to be infused into the content pedagogical courses that preservice teachers take" (p. 200) and practices within their discipline. The findings from Darling-Hammond et al.

(2005) study identified how technology infusion could provide opportunities for teachers to develop ways of using technologies to connect to heavier discipline engagement.

In a related study, Banister and Vannatta (2006) communicated the integration of technology enhancement for preservice teacher education courses as a necessity of providing preservice teachers support for technology competency success. A continued need for technology integration in the coursework and field experiences was suggested for future TPP as to provide preservice teachers with experiences that nurture powerful technology integration in P-12 settings (Banister & Vannatta, 2006). Results supported literature findings in need for an integration of pedagogy and technology in higher education and for preservice teachers to be prepared for technology application and pedagogy as first year teachers (Anderson & Horn, 2012; Banister & Vannatta, 2006).

Similar results of the need for technology preparation in higher education were found by Youssef, Dahmani, and Omrani (2015), although the research participants in the study were not future teachers. The study focused on students who were preparing for entry in the work field at a higher-level institution that incorporated Information Technologies (IT) in their courses for a change in the nature and form of the learning process. The study concluded that the students' involvement in the use of IT increased their e-skills, as well as the increased opportunity for collaborative and cooperative learning, which were associated with advanced e-skills (Youssef et al., 2015). The study recommended that higher education institutions have a wide range of digital tools, accessibility, and content for their teachers and students. In other words:

> Technological literacy, digital literacy, technological proficiency, digital literacy self-assessment or disorientation in hypermedia, (i.e., e-skills)

> require a significant organizational change in higher education institutions, diversity of learning processes, and an important investment by students (p. 2).

The data in the paper also suggested that public schools provide their teachers and students access to classroom interactions with quality equipment and connectivity to generate e-skills among their students (2015).

Another study was conducted by Jiang and Edirisingha (2014), that didn't involve preservice teachers, but university students. The researchers investigated how universities should research digital literacy practices as an important research focus in technology-enhanced learning. Their conceptual framework of these researchers intertwined the following key aspects: (a) problem solving; (b) ethical; (c) E-safety; (d) technological skills; (e) distributed technology; (f) functional concept; (g) creative appropriation; (h) critical thinking; (i) intercultural understanding; (j) social participation; and (k) identities (Jiang & Edirisingha, 2014). The enhancement of learning and engagement of technology was part of this research and the researchers suggested to enlighten skills at the forefront of technology in teacher preparation program (2014).

Kim (2012) involved Singaporean preservice teachers as participants in a qualitative research case study. The purpose of this research centered on the participants' construction of metaphors (i.e., images and narratives) of teaching and learning using ICT tools in teacher education program. The study demonstrated a connection of ICT mediated metaphors to teacher educators and peers allowing for a critical reflection process of their own teaching and learning.

Mirriahi, Alonzo, and Fox (2015) highlighted two focus groups of eight preservice teachers in a blended learning (BL) environment who represented various disciplines and roles for their data collection. The qualitative exploratory findings and extant literature addressed these three issues of the BL environment: (a) lack of academics' digital fluency; (b) multiple definitions of BL; and (c) lack of standards in existing BL frameworks. While the researchers intended to use this framework for their own BL higher education environment, the hope was that other institutions would follow suit and adapt this framework to meet the needs of their own BL environments. Because of using limited participants, Mirriahi et al. (2015) determined that questioning more participants, academics as well as students, would benefit the enhancement of criteria and learning and their practices of digital literacy skills and engagement of online technologies. Results from these past literature studies showed that giving preservice teachers opportunities for preparing and practicing digital literacies within the context of their own education can be beneficial to their future classrooms within the concept of technology embedded curriculum and content pedagogy (Kim, 2015; Mirriahi et al., 2015).

In a study conducted by Duncan-Howell (2012), one goal was to help college professors/higher education teachers prepare their students for digital literacy and fluency in planning in the learning environment. These participants were involved in a case study that explored their digital abilities, digital competencies, and digital experiences and considered the impact of these findings for current and future planning and learning in the educational environment. Duncan-Howell (2012) found these students were in constant connection to their family and friends through Facebook and confident in their ICTs. The

research revealed digital fluency should be a consideration for higher education institutions to use in their planning and instruction. Knowing the impact of social media and digital literacies within the confines of preservice teachers' personal environment, the data collected from these researchers (2012) proved a vital need to research social media and digital literacy practices outside the personal environment, including professional boundaries and contemporary classroom borders.

Technology in the Classroom

Buckingham (2008) viewed digital media beyond the definitions of "information" or "technology." Through his review of the definitions of "information" and "technology" the research revealed the importance for media (i.e., the internet, computer games, other digital devices) to be critiqued by teachers and students if they are being used to teach in the classroom. Buckingham (2008) also investigated a continued need for a definition of digital literacy "that goes well beyond some of the approaches that are currently adopted in the field information technology in education" (p. 74). The classroom digital literacy practices, TPACK, and ICT will be addressed in the reviewed literature in the following section.

Teachers' Digital Literacy Practices in the Classroom

Glister (1997) maintained the computer environment gives an ebb and flow of ideas between a professor and his students. He compared the benefit of computer connection to the types of students in his classroom: (a) active participants; (b) participants who could be coaxed into discussion; and (c) inactive participants (p. 79). The students who were inactive, sitting in the back of the room that "simply shouldn't be there or those that are brilliant but too shy or inwardly focused" (p. 80) could benefit

from computer interaction and are the ones Glister (1997) wants to reach and open to see their creativity. He felt computers could help him do that, could open students who do not normally participate, to participate digitally without personal contact. This same argument can be said of that exchange of digital ideas between a teacher and his or her students within the walls of contemporary elementary or secondary classrooms (Larson, 2012; Mishra & Koehler, 2006). As Glister (1997) defined and considered the future of the digital literate as being not only capable of technological knowledge assembly (i.e., Internet searches, content evaluation), but equally able to apply them to the "Net of tomorrow" (1997, p. 230).

Swan and Hofer (2011) utilized an interpretive approach in their qualitative study. They applied the research paradigm of the Council for Economic Education's National Voluntary Content Standards in Economics and Mishra and Koehler's (2006) theory of TPACK to determine if the integration of a technological tool (i.e., podcasting) would benefit students in their economic literacy, both building economic concepts and skills. The research revealed a rise in economic-related podcast popularity in news media which could be a new structure for classroom economic technology integration (Swan & Hofer, 2011). Participants in this study included eight preservice social studies teachers who found the digital tool (i.e., podcasting) successful within the confines of their higher education classroom and content, although there were mixed feelings of being able to connect content, pedagogy, and technology (i.e., no specific content-based rationale for connections the podcast projects). The resulting data provided researchers with a strong technological pedagogical knowledge, although lacked in the area of technological content knowledge in design and implementation of the podcasting projects (2011).

A lack of technological content knowledge was also present in Larson's (2012) article of first-year teachers enrolled in a literacy methods course using e-books. The teachers' concern was classroom management and lesson planning, although the most concerning element was that of including technology into lessons. One participant was given a Nook (i.e., e-book) at her campus and was asked to incorporate this digital tool to teach reading. In 2009, Barnes & Noble introduced the Nook (circa 2009), which is an E ink display device that operates on an Android system. The e-book allows direct downloads and sharing of books from Barnes and Noble, as well as WiFi capability (Kershner, 2012). The teachers were not educated on the devices through any teacher training and were given no instruction on how to use the tool with literacy instruction.

> My school had just bought new Nooks and the principal asked me to use these devices to teach reading...I had absolutely no idea what I was doing. I had never read an e-book, and I definitely had no clue how to teach reading with these things...Sadly, my colleagues were of no help as they, too, had very little experience with e-books. I was so stressed I cried (p. 280).

Overall, these two studies demonstrated how lacking the expertise of technological content knowledge and training on how to use a technology tool, hindered teachers from meeting the technological needs of their students in contemporary elementary and secondary classrooms (Larson, 2012; Swan & Hofer, 2011).

Additional studies found teachers in elementary and secondary classrooms focusing on technology as a tool itself, rather than the implementation of technology pedagogy. Liu, Jones, and Sadera (2010) created a research study that involved K-7, 8-

12, and higher education, experienced teachers enrolled in introduction research education courses at two separate universities. The teachers volunteered for the study and were given an instructional practice instrument to measure their knowledge and perceptions of instructional and technological based practices. Some of the practices measured in the study were distance education, Web-based learning, whole language, and program instruction (Liu et al., 2010). The quantitative study resulting data lead to codes of familiarity, theory and research knowledge, and perception of instructional and technological practices. The higher the education of the teachers proved the more knowledgeable they were with instructional practices. Also, a participant's' own education (i.e., master's vs. bachelor's degree) demonstrated a higher awareness and significant difference in educational practices. Finally, educators with more years of teaching had more knowledge and understanding of these practices (2010). The paper provided multiple arguments for future research in the fields of teacher preparation and instructional practices with awareness of technology integration in content and pedagogical practices (2010).

In Boksz (2012) phenomenological research study, the importance of teachers knowing how to use digital tools with digital literacy practices was studied, as well as how to embed these digital tools into their coursework, curriculum, and classroom activities. Teachers were identified as those whose digital skills is second in nature and the confidence and expertise of applying these technological tools in their teaching approaches to meet the needs of their students was lacking (Boksz, 2012). Students are said to be significantly technological embedded personally and in their school environments (2012), therefore teachers need the confidence in their own digital skills

and expertise at applying technological tools in their curriculum (2012). Harris et al. (2009) pointed out that professional development courses focused on technical skills, although lacked in students' learning needs, teaching instruction, and content standards.

Technology knowledge-based standards need to be an obligatory format for a continued educational technology and learning support structure (Smeureanu & Isaila, 2012). Educational technology provides benefits for teachers and students, although, there are several teachers who are not using technology to promote learning (Schulze, 2014). The purpose of the Biennial Educational Technology Assessment (BETA) (eTech Ohio, 2009) was to determine teachers' education experience as classroom teachers. The BETA survey inferred an 81% agreement on how computers were effective in assisting students' success in academic content standards. Thirty-six percent of the teachers reported to have used the Internet once a week for instructional delivery of content material. The survey results also revealed 29% of teachers used educational technology in standards-based instruction and once a year or no technology use at all to support technology for instruction (eTech Ohio, 2009). Examples in this study provide evidence of the need for future research of teachers and technology in the relationship between teachers, their TPACK (Schulze, 2014).

In a study of one participant's digital literacy practices of composing identity, McLean (2010) provided teachers with ideas to incorporate students' out-of-school digital literacy practices in school settings. The researcher also sought to understand students and their ways of knowing how to create meaningful learning experiences. Within interviews, websites, emails, and field notes, the researcher found that teachers need to build on students' ways of knowing and learning of their out-of-school digital

literacy practices and incorporate those into lessons and planned in-school activities with multimodal purpose (McLean, 2010).

As in previous studies, McKenna, Conradi, Lawrence, Jang, and Meyer (2012) conducted a study grounded in attitude theory and digital literacy environments. The researchers set out to investigate the reading attitudes of middle school students in multiple states. The researchers used a confirmatory factor analysis (CFA) that reported: positive attitudes of females than those of males toward academic reading in print and digital settings and toward recreational reading of print (McKenna et al., 2012). In contrast, males exhibited more positive attitudes than females toward recreational reading in digital settings. The resulting data from the attitude theory and digital environment literacy environment reported insight into the middle school years as important reading development for students and provided a "useful frame of reference for informing and guiding subsequent inquiry" (p. 301).

Hall, Atkins, & Fraser (2014) derived a lack of evidence in their study in terms of how digital literacies transferred into the classroom curriculum for most secondary educators. Hall et al. (2014) developed a study that was a part of a digital literacy project called the DigiLit Leicester Project. The project's goal was to develop a working definition of digital literacy and a smaller study was the result of the authors using the framework of this project based on self-evaluation and cooperative continuing professional development (CPD). The researchers surveyed teachers from the United Kingdom and discovered to restructure a school-district wide digital literacy transformation would require an authentic restructure of pedagogical activities and teacher training. No framework was currently in practice in the UK, so this study and

project were key elements into embedding self-review which empowered teachers to conduct their own professional development, as well as influencing a city-wide, co-operative opportunity to transform secondary schools' digital literacy (2014).

Research studies similar to Hall et al. (2014), was Kingsley (2009), who consulted with elementary teachers to analyze their interactive process of moving back and forth between visual and textual data. Results from this qualitative study revealed the magnification of how visual images expounded complex classroom practices (Kingsley, 2009). Therefore, the data collected from this research suggested the need for visual studies, digital technology, and digital delivery systems as necessary components for contemporary classroom instruction (2009). Kingsley (2009) applied a theoretical perspective of constructivism and used a third paradigm of feminism for his qualitative research design using case study, grounded theory, narrative methods, and visual ethnography. The author's sources for data collection were in the form of field notes, documents, photographs and videotapes, audiotapes, informal conversations, informal interviews, and semi-formal interviews. A unique aspect to this study was that the researcher was not the only data interpreter; participants used a process of photo-elicitation, to give respondents reactions.

Korat, Levin, Ben-Shabt, Shneor, and Bokovza (2014) provided insight from an elementary classroom environment in the study on the use of a dictionary and how it affected second graders' word learning. In this study, the dictionary was embedded in an e-book that was composed of static and dynamic visuals, as well as printed and non-print focal pages. Four groups of students used the dictionary in the e-book as a source to assist their word learning, one group did not use the dictionary (Korat et al., 2014). The

research data revealed that dynamic visuals with printed words produced the greatest word explanation and use. The research detailed students reading with static visuals and printed words vs. dynamic visuals without printed words resulted in less word progression. The students who read the e-book without a dictionary had the lowest results in word recognition. Korat et al (2014) corroborated Hall et al. (2014) and Kingsley's (2009) research studies portraying the potential benefits of using multimedia and visuals for young children and their study of language and literacy.

In an effort to measure students' digital literacy proficiencies and competencies, Misirli and Akbulut (2013) created a scale regarding educational technology standards enclosed in the International Standards for Technology in Education (ISTE) and the National Education Technology Standard - Students (NETS - S). The purpose of the 5-point Likert scale was to have a measurable degree of 8th grade students' technology literacy within policy initiatives like No Child Left Behind (NCLB), ISTE, NETS-S, and Ministry of National Education (2012) goals (Misirli & Akbulut, 2013). Researchers created the scale constructed from the six dimensions of the ISTE-NETS (a) creativity and innovation, (b) communication and collaboration, (c) research and information fluency, (d) critical thinking, problem solving and decision making, (d) digital citizenship, and (e) technology operations and concepts. The Likert-scale results provided a moderate and reserved account of these students' technology literacy skills and was efficient in determining the necessity for further planning in educational technology measures (2013). This research indicated knowledge of students' digital literacy practices and their connections of digital literacy in the classroom beneficial to teachers.

Another discovery by Marsh (2006) was a crucial challenge for normal practices of teachers and their future students' out-of-school literacy lives and how they are shaped by media and technologies when trying to connect pop culture practices for the demands the 21st century classroom. These data indicated (a) an effect on curriculum planning for the participants (i.e., teachers), (b) issues with the debate about the role of popular culture in school's literacy curriculum (Alvermann, Moon, & Hagood, 1999), and (c) a need to recognize the realities of children's out-of-school literacy connections that are shaped by media, new technologies, and popular culture. Since that time, others have replicated and extended Marsh's (2006) original research regarding the issue that if we do not connect students' out-of-school literacy practices within in-school curriculum, then we are "likely to continue to have literacy curricula in the international arena that are anachronistic and inadequate in terms of their ability to address the complex economic, social, and cultural demands of the 21st century" (2006, p. 173). These findings support those of several researchers, Misirli and Akbulut (2013), Kingsley (2009), and Boksz (2012), regarding the use of medial, digital literacies, and technology to aid students and providing training necessary for teachers to connect their instruction to the digital literacies practiced by their students.

Information and Communication Technology Skills (ICT).

Hughes (2013) explored a laptop-infused teacher program as an opportunity for preservice teacher to engage in the concept of TPACK and explained knowledge was developed as they learned about the use of digital technologies within educational settings. A purposeful sample of preservice students who were enrolled in a United States university teacher preparation program were asked about their Information and

Communication Technology (ICT) activities which included: (a) a digital technology self-efficacy appraisal, (b) an item attitude of learning technologies measurement, (c) a pedagogical perspective measure, (d) technology activities throughout the program, and (e) two open-ended questions about technology and content connections for their future students (p. 497). This study compared the 15-year technological practices of this teacher preparation programs to the same practices the graduates were learning today, even with the technological advancements. Teacher preparation programs ought to engage in a wide range of contemporary ICT activities to provide more ways for preservice teachers to see how ICT plays a role in teaching and learning (Hughes, 2013).

The purpose of the study conducted by Littlejohn, Margaryan, and Vojt (2010) was to investigate a student's' expectation of approaches to learning at a university, mapping out electronic tools and alternative formal learning expectations. A questionnaire was used on their first day at the university to ask students their previous learning routines, trends of web and email use, use of technology with Information Technology (IT) skills, and their preferred method of learning. The results from the quantitative analysis approach demonstrated the more self-efficacy the students had of themselves with ICT skills and as learners, the more they benefited in learning with technology in school. While this study did show increase in student use of technology over a four-year period, it lacked information correlating the use of new university students' ICT skills versus their own expectations of how they learn (Littlejohn et al., 2010).

Teachers from secondary schools in Spain were surveyed on their attitudes of ICT in a professional setting (Meneses, Fàbregues, Rodríguez-Gómez, & Ion, 2012). The

explanatory variables were socio-demographics, school-level information, frequency of Internet access in-and-out-of-school, ICT training, digital literacy, and organizational development. The smaller study was part of a larger project that addressed ICT and Internet use of primary and secondary schools in alignment with a new educational culture in Spain. These findings support that of Littlejohn et al. (2010) and Hughes (2013) who found both positive and negative perspectives of the teachers' ICT skills and a more positive alignment to Internet use in their studies.

Liyanagunawardena, Adams, Rassool, and Williams (2014) investigated higher education in Sri Lanka because of its performance of best basic education regarding literacy and primary education in the South Asian region. The area was in short supply of physical space for higher education, therefore the government invested in high levels of ICT for distance learning. While increased ICT occurred, Liyanagunawardena et al. (2014) reported the need for policy options to be set in place to impede barriers. These barriers included (a) “lack of infrastructure/resources, (b) low English language proficiency, (c) weak digital literacy, and (d) poor quality of materials and insufficient provision of student support” (p. 821). Similar barriers founded from the study conducted by Boulton and Hramiak (2014) included instructional time, pupil skills, and lack of support early-on. These conclusions compared to that of Hughes (2013) who concluded early professional support and teacher training could reduce these barriers and should continue throughout the teachers first years in the classroom (2014) and teacher preparation programs need to see how ICT is important to teaching and learning.

ISTE Standards and New Literacies. New literacies (i.e., reading, listening, speaking, viewing, writing, representing) compare to what Lankshear and Knobel (2008)

defined as being digitally literate: launching certain tasks, demonstrations, and performances of skills in a digital environment. Digital literacies including attributes such as agility, confidence, and creativity (Robertson & Lange, 2017) are also compared to new literacies and being digitally literate. Along with these new and digital literacies, technology platforms (i.e., hand-held devices) the software that runs it (i.e., social media), and the interface (i.e., application that one sees) needs to be addressed by teachers, preservice included (Eshet-Alkali & Amichai-Hamburger, 2004) since they have occupied student's' lives.

The ISTE standards for teacher educators provide teachers guidelines for composing technology-rich lessons, collaborating with peers, rethinking traditional approaches to classroom instruction, and driving their own learning. The ISTE standards explore: (a) the learner; (b) the leader; (c) the citizen; (d) the collaborator; (e) the designer; (f) the facilitator; and (g) the analyst. I expect to examine how my former preservice teachers align their instruction with the ISTE standards within their personal, instructional, and professional experiences with digital literacies both during and after their teacher preparation program.

Koehler and Mishra (2008) discussed how classroom technology integration is "a complex and ill-structured problem involving the convoluted interaction of multiple factors, with few hard and fast rules that apply across contexts and cases" (p. 10). Digital literacies students use today can be an outline for teachers to follow in what adequately fits with their own personal teaching style and then begin to integrate these practices into their activities inviting other literacies and abilities (Lankshear & Knobel, 2008) to assist preservice teachers and classroom teachers in creating meaningful lessons.

Erstad (2008) challenged the simplistic understanding of digital literacies to move beyond the skill of technology, moving towards digital literacies as a "set of competencies" (p. 198). Therefore, Lankshear and Knobel's (2008) redefined digital literacy and Robertson and Lange's (2017) definition of digital literacies will be patterned through this study of preservice teachers' (i.e., now classroom teachers) interaction and integration with technology. This pattern will be checked in their lessons, created for coursework during their teacher preparation program or created in present time, in their Title One School classroom. The purpose of this study is to explore the intersections and disjunctures between digital literacies in coursework (Literacy Needs of Diverse Learners and Disciplinary Literacy; Mid-South University, 2014-2017) in a teacher preparation program and personal digital literacy use in-and-out of a classroom at a Title One school.

The goal of this collective case study is to better comprehend select pre-service teachers' understanding and uptake of digital literacies. Another goal is to discover if and how any digital literacies transferred from their teacher preparation program coursework in class into personal and professional applications. By exploring and incorporating the ISTE standards, new literacies, and digital literacies into my coursework, I have provided and modeled digital literacies that preservice teachers can apply in their coursework and as teachers, in their future classrooms personally, instructionally, and professionally.

As the advancement of technology increases, the development of digital literacy practices for instructional purposes in a teacher preparation program can be geared for preservice teachers transferring into the classroom. It is my intention to discover the participants' portrayal of digital literacies within their teacher preparation program and any connections of these practices into their instruction and classroom. Purposefully, this

connection between teacher preparation programs, preservice teachers, and their first-second year of teaching will provide other higher educators and me the necessary information to build stronger digital literacies that connect with the classroom and students of today. Digital literacy practices in the preservice teacher programs and teachers in contemporary classrooms will be pivotal to technology advancements in education (Boulton & Hramiak, 2014). From its earliest definition of technologies, preservice teachers and teachers in the classroom can have adequate training of how to use digital literacies with pedagogy and teaching and embed them into their course curriculum

Practical Framework

Frameworks for research act as a guide to conceptualize one's investigation (Lester, 2005). Advantages to applying a framework to research are: (a) it is a structure for conceptualizing and designing research studies; (b) there is no data without a framework to make sense of those data; (c) it allows researchers to transcend common sense; and (d) there is a need for a deeper understanding, beyond this understanding (Lester, 2005). Eisenhart (1991) recognized three types of frameworks for research study: theoretical, practical, and conceptual.

Lester (2005) accepted each framework had a role to play the research he was conducting in mathematics education, although he argued two of the three portrayed limitations. Lester reasoned a theoretical framework had these problems: (a) the research is forced into results rather than providing evidence; (b) data must travel; (c) standards for theory-based discourse are not conducive to every-day practice; and (d) triangulation was absent. Lester (2005) discussed the importance of triangulation to assess strengths,

appropriateness, and weaknesses of one's theoretical perspectives (Denzin, 1978). A conceptual framework provides the researcher "an argument including different points of view and culminating in a series of reasons for adopting some points" (Eisenhart, 1991, p. 210). Lester (2005) claimed this framework is fragmented; it provides what and when an argument is relevant, although for that time and experience.

A practical framework is described as an "accumulated practice knowledge of practitioners" (p. 459) whereby the framework guides the researcher directly involved in the experience (i.e., during the experience) towards what is effective (Lester, 2005). A practical framework provides what works in that experience, asking those participants who are directly involved. "It is the accumulated practice knowledge of practitioners" (p.459). This study will be based upon the practical framework (Scriven, 1986; Lester, 2005) of the ISTE standards for teacher educators; a practical framework will guide this research.

Summary

Chapter II reviewed existing research related to (a) the history of digital literacies, (b) teacher preparation programs and technology, (c) preservice teachers' self-efficacy of their digital practices in at TPP and in a contemporary classroom, (d) ISTE Standards and (e) practical framework guidelines. There was a wealth of literature regarding digital literacy practices of a personal nature, as well as digital literacy practices in a TPP. The next chapter will discuss review of the methodology used to conduct this study.

CHAPTER III

Methodology

Overview of the Methodology and Approach

Chapter III is the methodology chapter that begins with a description of the qualitative collective case study design, followed by restating the research questions that will guide this study. Included in the descriptions of the collective case study are the delineation of the participants, population, sampling, and ethical examinations. Description of the case study design also includes a presentation of the qualitative instruments and procedures, as well as the data analysis procedures. The chapter concludes with a summary.

This study followed Leech and Onwuegbuzie's (2010) 13-step methodological framework for qualitative research including descriptions of Steps 6-11. Step 6: classification of sampling; Step 7: type of qualitative inquiry for the research design; Step 8: data collection process; Step 9: transcript evaluation; Step 10: analysis of data; and Step 11: synthesis and analysis of data. Steps 9 through 11 will be further explained in Chapter IV. Qualitative research was the closely aligned to the purpose of my study and I employed three data analysis techniques for the intent of triangulation: key-words-in-context, word count, and thematic analysis.

Methodological Framework and Research Design

Stake (1995) defined case study research as catching the complexity of a single case or participant, coming to an understanding of their points of view in certain circumstances. In educational research, a case can be a child or also a classroom of students, therefore the "case is one among others" (p. 2). "Cases of interest in education

and social service are people and programs; similar and unique in many ways" (Stake, 1995, p. 1). While studying both my former preservice teachers (i.e., people) and the courses I taught (i.e., programs) in which they were enrolled, I wanted to observe how my former students have taken what they learned about digital literacies and applied them to their classroom teaching practices. In order to do this, I employed a collective case study.

Collective case study, also called the multiple-case design (Yin, 1994) is when two or three case analyses are studied instrumentally (i.e., understanding more than the general case; Johnson & Christensen, 2014). Benefits of the multiple case study (i.e., collective case study) include comparisons of similarities and differences within the cases, observing the results of many cases to test a theory, generalization can occur from multiple cases rather a single case, and replication of the findings (Johnsen & Christensen, 2014). It was my personal aim of this study to better understand how I can improve my own teaching practices, going beyond the general cases, so teachers better understand digital literacies to fit the needs of all students. Within this case study, I anticipated that I would gain greater insight into my former preservice teachers' digital literacies in their personal, instructional, and professional experiences during and after their teacher preparation program.

Johnson and Christensen (2014) explained that case study research is more varied than phenomenological, where individuals' experience of a phenomenon is studied; broader than ethnography, which is focused on a specific cultural group; and more nuanced than grounded theory, which develops an explanatory theory. The collective case study design that I emploed for this study will provide "a focus on each case as a

whole unit (i.e., case study research is holistic) as it exists in its real-life context" (p. 51). Studying participants who were enrolled in my teacher preparation courses, I expected to examine how their teaching aligns with the ISTE standards for teacher educators within their personal, instructional, and professional experiences with digital literacies both during and after their teacher preparation teacher program.

This study was based upon the practical framework (Scriven, 1986) of the ISTE standards for teacher educators. A practical framework is described as an "accumulated practice knowledge of practitioners" (p. 459) whereby the framework guides the researcher directly involved in the experience (i.e., during the experience) towards what is effective (Lester, 2005). The ISTE standards provide teachers guidelines for composing technology-rich lessons, collaborating with peers, rethinking traditional approaches to classroom instruction, and driving their own learning. The ISTE standards explore these aspects: (a) the learner; (b) the leader; (c) the citizen; (d) the collaborator; (e) the designer; (f) the facilitator; and (g) the analyst. By incorporating these standards into my coursework, I have suggested and modeled digital literacies that preservice teachers can apply in their coursework and as teachers, in their future classrooms personally, instructionally, and professionally.

Collective-case study research allows the researcher to focus on various participants' accounts of a research topic. By applying the collective case study design (Stake, 1995), or multiple-case design (Yin, 1994/2014), I was able to use resources from coursework I designed (i.e., teacher preparation program) and compare similarities and differences of teachers' use of digital literacies in an elementary or secondary classroom from multiple cases. Also, I was able to replicate the results from multiple cases, in which

replication logic can be used (Yin, 1994/2014). “If similar results are obtained from all three cases, replication is said to have taken place” (p. 45). According to Johnson and Christensen (2014), repetition (i.e., replication) can provide more confidence in a finding.

When collecting, analyzing, and interpreting data from an interview, the interviewee provides the researcher with a voice, nonverbal communication (Onwuegbuzie et al., 2008), and access to participants’ thoughts and feelings (Sutton & Austin, 2015). These are important for a deeper understanding in qualitative research (Onwuegbuzie et al., 2008). I analyzed my former preservice teachers past coursework, past discussion boards, current lesson plans and assignments that they use in their classes, as well as interviews about their current digital literacy practices (both in teaching and in personal life). These data were analyzed with the intent of triangulation by employing three analytic techniques: Keywords-in-context, Word count, and a thematic analysis to determine the following questions regarding digital literacies.

Research Questions

1. How do my former preservice teachers apply digital literacies in their classrooms and teaching after their teacher preparation program?
2. How do my former preservice teachers apply digital literacies in their personal lives after their teacher preparation program?
3. What intersections and disjunctures occur between how my former preservice teachers personally and professionally apply digital literacies?

Participants

Johnson and Christensen (2014) described a few common aspects among case study researchers Merriam (1988), Stake (1978), and Yin (1981). They “all choose to call

their objects of study ‘cases,’ they collect primarily qualitative data, and they organize their research efforts around the study of those cases” (p. 434). According to Creswell (2002), when conducting a case study, three to five participants are adequate in gathering data. In this collective case study, a selection of up to six key informants (both exceptional cases and typical cases), who have since graduated from the teacher preparation program at Mid-South University (a pseudonym), who were enrolled in one or more of my courses, were chosen. I selected up to six key informants due to the possibility of attrition. These case study participants included female teachers in their first or second year of teaching in a Title One school. One, semi-structured, 60-to-90-minute interview of each participant took place after analysis of the assignments that they did as coursework in one or more of my classes as part as completion in their teacher preparation program, as well as analysis of their current lesson plans, and observations of their current teaching practices (per case study participant)

Participants were selected through a purposive sampling, namely criterion sampling that is convenient in nature (Onwuegbuzie & Collins, 2007; Miles, Huberman, & Saldana, 2013). Purposive sampling is ideal over various other sampling schemes. For example, Johnson and Christensen (2014) stated that convenience sampling schemes are less than ideal when trying to generalize to a population based on a single study’s findings. In contrast, random sampling is the ideal type for large scale studies although it is not used as often as convenience sampling “because of practical constraints” (Johnson & Christensen, 2014, p. 264) the study may possess. Criterion sampling allows the researcher to specify what characteristics the participants should have to qualify for their study. It is a “nonrandom sampling technique in which the researcher solicits persons

with specific characteristics to participate" (p. 264). Non-random sampling schemes are traditionally associated with qualitative studies (Onwuegbuzie & Collins, 2007).

Criterion sampling also involves groups of participants who are knowledgeable about the topic of research interest (Creswell & Plano Clark, 2011), and criterion sampling selects cases that meet a predetermined criterion (Palinkas, Horwitz, Green, Wisdom, & Hoagwood, 2015; Patton, 2001). Criterion sampling as a purposive sampling strategy in a qualitative study is when participants are selected based on pre-determined criteria that will help inform the researcher about their experience with the topic of interest and will provide detailed and generalizable information (Palinkas et al., 2015). Therefore, this study followed a criterion sampling scheme whereby the criteria that I used was (a) former preservice teacher enrolled in one or more of my courses, (b) former preservice teachers who were using multiple digital literacies in their coursework, and (c) current teachers in their first or second year teaching at a Title I school in East Texas. Therefore, criterion sampling (i.e., being able to specify characteristics of my participants) was appropriate for this study.

The participants for this collective case study will consist of male and female teachers who were enrolled in one or more of my courses between the 2014 - 2017 semesters at a 4-year university in southeast Texas housing over 20,000 students. I selected six of my former preservice teachers who displayed personal digital literacies, as well as those who produced activities and assignments embedded with digital literacies at the beginning of their teacher preparation program. In contrast to these participants, I tired to select students who spoke of themselves as "technically challenged," although increased their personal and instructional digital literacies towards the end of the

program. A strong rapport was established through their teacher preparation coursework; therefore, it was easier to obtain an accurate and self-revealing conversation during the interview process. This rapport lead to a comprehensive understanding of the interviewees' perceptions and experiences of digital literacies in their personal, instructional, and professional careers (Roulston, 2010).

Data Collection

When conducting a qualitative research study, the researcher is the main instrument collecting the data (Denzin & Lincoln, 2005; Onwuegbuzie, Leech, & Collins, 2008). Researchers use information collecting methods such as observational and field note data, audiotapes of interaction, documents, texts, and interviews—the most used data source is the qualitative interview (Roulston, 2010). When collecting, analyzing, and interpreting data from an interview, the interviewee provides the researcher with a voice, as well as nonverbal communication data important for a deeper understanding in qualitative research (Onwuegbuzie et al., 2008).

Teacher Preparation Coursework. My first step was to analyze existing data from previous courses taught in the past five years, through an online platform (D2L, Mid-South University, 2014-2017). These data included discussion boards, on-line platform communications, class assignments, and activities to better understand my former pre-service teachers' understanding and uptake of digital literacy. I have taught these courses in a teacher preparation program for over five years and I am including the information from the pilot program at Mid-South University, that included the Surface Pro and iPad as instructional tools for coursework purposes. QDA Miner (Provalis Research, 2014) was used to analyze the teacher preparation program artifacts from these

courses. I employed a method of Keywords-in-context and Word count to manage, code, and analyze qualitative data.

Semi-Structured Interview. A method in qualitative interviewing is the semi-structured interview. Interviews allowed me to better understand the participants' perceptions of digital literacies throughout their education and educational career. Semi-structured, face to face interviews were conducted to collect data from the participants to fit with Kvale's (1996) criteria for judging the quality of an interview. I asked pre-formulated, open-ended questions. Barriball and While (1993) suggested the semi-structured interview method as a means of data collection for case study research because it is applicable for studying perceptions and opinions of participants for the researchers' issues, sometimes sensitive in nature. Using the semi-structured, open-ended nature of the questions, researchers can clarify responses and probe for more information. The results of the premade, open-ended questions asked in the semi-structured interview allowed me to compare what digital literacies my former preservice teachers learned in their coursework and what digital literacies they are applying in their first- or second-year classrooms in Title One schools.

One open-ended, 60-to-90-minute semi-structured interview of each participant took place after analysis of the online platform of coursework. The setting of the interviews took place in the interviewee's classroom when no students were or their choice location. Kvale and Brinkmann (2009) discuss the importance of conversations during human interaction. The participants were provided ample time to answer the open-ended questions, offered in a conversational manner, and were invited to express themselves freely during the interview.

There were 10 open-ended questions I developed from the findings of the coursework, relating to the following topics, which were covered in coursework: personal digital literacies outside of coursework, instructional digital literacies within the lessons and activities of coursework, and digital literacies being applied in the classroom of their Title One school. These questions were developed post-coursework analysis, to be answered by the participants in this research study. These responses were transcribed into a Word document and then imported into the latest version of QDA Miner (Provalis, 2014) for my coding and analysis. The question formats consisted of (a) basic descriptive, (b) follow-up, and (c) experience/example questions that were asked at appropriate times throughout the interview process to clarify any misunderstandings or elaborate on an answer (Janesick, 2014).

Questions were developed to guide the interview of my former preservice teachers' perceptions of the involvement of digital literacies in their teacher preparation programs and any literacies they have adopted for their own learning. The questions also related to any digital literacies that might have transferred over into pedagogical tools or classroom activities in their first or second year as classroom teachers. All interviews were audio recorded, with the purpose of collecting verbal and non-verbal data. Anecdotal notes will be recorded to capture the participants' perceptions of digital literacies within coursework, for their own learning, and application in their own classroom. The interview questions are located in Appendix A.

Once each interview was completed, I transcribed the interviews. Onwuegbuzie, Dickinson, Leech, and Zoran's (2010) transcription conventions, which built on Schegloff's (1987) conventions, helped to provide detailed accounts of the nonverbal data

communicated by the participants. Gorden (1980) listed nonverbal communication as (a) proxemics (i.e., interpersonal space to communicate attitudes); (b) chronemic (i.e., use of speech pacing); (c) kinesics (i.e., body movements); and (d) paralinguistic (i.e. variations in volume, pitch, and quality of voice). Nonverbal communication data from the audio recorded interview was collected by me through notes and comments on their interviews. These notes involved hesitating, pausing, and body movements. I then analyzed and interpreted using Denham and Onwuegbuzie' s (2013) complementarity criteria to capture underlying messages not communicated by the participants' voices. These posteriori nonverbal data were recorded to provide a way to broaden my understanding of the participants' perceptions and understandings of digital literacies in their personal, instructional, and professional settings.

Artifacts: Lesson Plans. Educators should design learner-driven, authentic lessons that will accommodate the learners. I reviewed random lesson plans my former preservice teachers created. These were stored in my coursework-online platform at Mid-South University. This is an example of the ISTE standard, describing the Designer:

> 5a) Use technology to create, adapt and personalize learning experiences that foster independent learning and accommodate learner differences and needs.
>
> 5b) Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.
>
> 5c**)** Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.

Therefore, reading and/or observing lesson plans in the preservice teachers' lessons in their coursework using the ISTE (2018) standards as a guide, provided the information needed to assist me in altering my coursework and assignments and assist teachers who are learning to apply digital literacies in their own classrooms, if these standards are not observed or being practiced.

Informed Consent. The six participants were completely cognizant of the intent of the research, method of data collection, and were not deceived during any part of the research process. Written and verbal consent was obtained by the researcher at the start of the project once the cases have been selected. I provided a consent form to sign upon the introduction of the research project (see Appendix C). All interviews were audio-recorded with password protected devices. I used my Surface Pro, my cell phone, and a recording device (i.e., tape recorder) for audio recordings, in case one failed during the interview. The audio-recorded data was stored on my password protected computer. The interviews were erased from the recording devices once they were stored on the password-protected computer. Additionally, all coursework and artifacts that were collected were stored on the password-protected computer and/or kept in a locked file cabinet in my office. Confidentiality was always be maintained, and all participants will receive pseudonyms.

Data Analysis

Denzin and Lincoln (2005) and Onwuegbuzie et al., (2008) referenced the researcher as the main instrument for qualitative research analysis, although I used the aid of a computer software program as another instrument to assist in the analysis of the data. I selected one software program tool to facilitate analysis: QDA Miner (Provalis

Research, 2014). QDA Miner supported managing, coding and analyzing qualitative data from their past coursework, interviews, and current lesson plans. QDA Miner aided in organizing, analyzing, and finding insights of digital literacies common and divergent among the participants in my collective case study (Stake, 1995).

Leech and Onwuegbuzie (2007) advised three different procedures to increase rigor and trustworthiness of the findings in the qualitative data (p. 575). Therefore, I (a) used more than one type of analysis, (b) assessed a peer debriefing, and (c) provideed member checking. Leech and Onwuegbuzie (2007) suggested involving two or more types of qualitative analysis techniques to triangulate the results. I chose three different analysis techniques for data analysis triangulation (2007, p. 2): (a) Keywords-in-context, (b) Word count, and (c) Thematic analysis. Keywords-in-context and Word count was administered to the data collected from the researchers' coursework activities and classroom observations. Thematic analysis managed the data collected from the participants' interviews. I asked for assistance from my chair to administer a peer debriefing with questions regarding the interview that was administered to the participants. Member checking allowed the participants to look over their interview after the transcription to advise if any changes need to be made.

Keywords-in-Context. Fielding, Lee, and Lee (1998) gives reference to the cultural analysis of a word as keyword-in-context. "People use words differently, and, thus, by examining how words are used in context of their speech, the meaning of the word will be understood" (Leech & Onwuegbuzie, 2008, p. 594). Keywords-in-context was applied to the coursework my former preservice teachers completed in my classes and was analyzed through QDA Miner (Provalis, 2014) revealing words relating to

digital literacies. Keywords-in-context analysis was also beneficial to apply to observational data (Leech & Onwuegbuzie, 2008).

Word count. A second analysis that was applied to the data is word count. Word count analysis is beneficial with interviews in that it allows the researcher to count the number of times a specific word is used and its importance regarding the research topic (Leech & Onwuegbuzie, 2008). Miles and Huberman (1994) justified word counting (i.e., themes) in qualitative analysis for three reasons: (a) easy pattern recognition, (b) hypothesis verification, and (c) maintaining analytic integrity. Applying word count to my coursework and interviews, allowed me to view the frequency of specific words relating to digital literacies. Word count analysis was helpful to my research in providing me the number of times the participant used words in the coursework and observations.

Thematic Analysis. Braun and Clarke (2006) described thematic analysis as one qualitative analytic method that is rarely acknowledged, yet often administered in the world of psychology (Boyatzis, 1998; Roulston, 2001). Thematic analysis was also stated as a common qualitative practice in the social sciences (Holstein & Gubrium, 1997). Thematic analysis was characterized by Boyatzis (1998) as an across method's tool, whereas Braun and Clarke (2006) argued thematic analysis "should be considered a method in its own right" (p. 4). Braun and Clarke (2006) set out to provide research of thematic analysis for researchers and teachers of psychology. Thematic analysis is a qualitative method of identifying and reporting patterns (i.e., themes) of selected data (2006).

While there are many qualitative analysis techniques that identify themes (i.e., classical content analysis or constant comparison analysis), thematic analysis has a

benefit in its flexibility (Braun& Clarke, 2006), with different demonstrations of the method within the large theoretical framework. This flexibility provided me "a rich, detailed, yet complex account of the data (p. 5). Secondly, essentialism and constructionism are compatible to thematic analysis. Social constructionism was defined as focusing on the creation of understanding between people in a group, within societies, while social constructivism is focused on the individual participants' constructed system of knowing (Papert & Harel, 1991). This research was aligned with the philosophical perspective of social constructivism, focusing on the individuals' perspective of their digital literacies, in which thematic analysis can be applied to the interview for reoccurring themes and concepts embedded in the participants' responses. By applying multiple data analysis techniques and triangulating the outcomes of this qualitative study, the results were more legitimate and trustworthy (Leech & Onwuegbuzie, 2007).

Member-checking. Member checking is a procedure completed by the participant that allows her/him to read over the report checking for accuracy and true representativeness of the information provided (Manning, 1997). Member checking will help triangulate the interpretations of the participant's interviews (Stake, 1995). After the data was collected, the interviewee was informed that the interview had been transcribed. The interview transcript was sent to the participants and they will be able to examine for accuracy and palatability (i.e., member checking; Stake, 1995). After member-checking, I corrected any mistakes or changes the participants make to the interview (i.e., there were no changes). The role as a researcher was that of a complete member, which Adler and Adler (1987) identify as investigators who study settings wherein, they are already members.

Peer Debriefing. Onwuegbuzie et al. (2008) suggested choosing a colleague that does not have a connection in the findings of the study, but who "has good interviewing skills, understands the qualitative research process, is experienced at conducting qualitative research, and understands the underlying research topic" (p. 3). Peer debriefing is a "structured interviewing of the (interpretive) researcher" (Onwuegbuzie et al., 2008, p. 2). Frels and Onwuegbuzie (2012) suggested using a peer debriefing interview to assist with feedback regarding "biases that potentially; (a) might have influenced the various facets of the research study (e.g., formulating the research question, implementing data collection, and conducting analytical procedures); (b)might have changed over the course of the investigation in general and interview process in particular: and (c) might have affected interpretations of findings (i.e., interview data) and implications stemming from the findings (e.g., formulating analytical generalizations)." (p. 3).

Benge, Onwuegbuzie, and Robbins (2012) outlined specific methods of increasing credibility such as engaging in debriefing interviews and self-reflection to construct a credible interpretation. A debriefing interview (i.e., peer debriefing) was held after member checking, with my dissertation chair, because of her understanding of the research topic and the relationship we have established. Debriefing questions were co-constructed by my chair and myself and were descriptive in nature. The informal debriefing interview consisted of: (a) questions regarding researcher bias and (b) questions based on Guba and Lincoln's (1989) principles of authenticity criteria. The questions included thoughts on comfort level, personal connections, surprise findings, future interviews, etc.

Limitations

There were several limitations to this study. First, there were a limited number of participants observed in only one higher education teacher's courses. I cannot presume the findings of this study would have the same results with other teachers' courses in the same campus program or other university teacher preparation programs. Secondly, the information was gathered from up to six participants discussing their personal digital literacies in a teacher preparation program, inevitably providing information about their evaluations of their own perceptions of digital literacies, not necessarily accurate evaluations of themselves. A third limitation to the study was the technology restrictions in the classrooms of the participants (i.e., former preservice teachers) in this study. Websites are often controlled on school districts main servers and technology directors block sites that could be harmful to students. Also, some districts might limit the number of computers or devices in a classroom, leaving one or two for student use.

Another limitation is that first or second year teachers might be overwhelmed with the amount of paperwork, preparation, and meetings that engulf a teacher's' everyday activities. Integrating digital literacies into an already packed schedule and course curriculum, can be a deterrent on teachers desire to embed technological activities for their students. Also, confidence and belief in teachers' own selves as novice or expert technology users could be a barrier that limits their technology use in the classroom curriculum, both personally and professionally. Lack of practice using media or digital literacies on a personal scale can limit teachers' digital literacy integration professionally. Finally, using a practical framework versus a theoretical or conceptual framework, limits the study to the research that is being done in that experience, under the conditions of that

specific context. These external (i.e., one school, technology restrictions, computers) and internal (i.e., perceptions, overwhelming mentality, confidence) barriers that limit digital literacy integration of this study can be possible research subjects for other studies.

Delimitations

There are several researcher-enforced delimitations to this study to narrow the focus and preserve a manageable study. I delimited the study to participants within a 200-mile radius who previously were enrolled in the teacher preparation program at the four-year university where I am employed. The study was further delimited by the selection of participants who are in their first- or second-year teaching in a classroom at a Title One school. Selection of these participants were those enrolled in one or more of my courses and received a teacher certification in the teacher preparation program from that university.

Another important delimitation was researcher subjectivity. Yin (2003) noted the case study researcher must uphold impartiality to keep the study restricted of potential bias. I was aware of potential bias in the study. I developed a rapport with these participants during our interactions in my course. Therefore, when conducting the interview, there was no pre-determined partiality of the participants and participants did not have any ties to me, my coursework, or university where they were previously enrolled. Participants were allowed to speak freely about their interactions in the course, the teacher preparation program, and what digital literacies they transferred into their own classroom, if any.

Summary

Chapter III was designed to be a detailed description of the methodology I employed to conduct this research on preservice teachers' understanding and knowledge about digital literacies prior to their teaching and their digital literacies integration in their first-or-second year classroom of teaching in Title One schools. Included in the chapter was a delineation of the participants, a description of the qualitative instruments used to gather data, and the data analysis procedures. Before collecting interview data, I analyzed the online learning management system discussion boards, other course online communication platforms, students class assignments, and activities from previous taught courses applying keywords -in-context (Fielding et al., 1998) and word count through the program QDA Miner (Provalis, 2014). The qualitative method of thematic analysis was administered to data collected through the participants' interviews, wherein I identified and reported patterns (i.e., themes) evidenced by their digital literacies.

The collective case study was organized case by case, including a separate section combining the findings of all the cases (Johnson & Christensen, 2014). I attempted to reconstruct the participants' portrayal of digital literacies within the teacher preparation program and their classroom in a Title One school. My study followed Leech and Onwuegbuzie's (2010) 13-step methodological framework for qualitative research including descriptions of Steps 6-11. The following chapters display data gathered throughout this study, searching for possible answers to the research questions provided in Chapter I and Chapter III. They also include summarized findings, the possible implications based on the data, and recommendations for future research.

CHAPTER IV

Methodological Procedures in Context

Chapter Overview

In Chapter III, I described the qualitative methodology used in my study. In this chapter, I discuss my participant search and selection, the IRB (Institutional Review Board) process and revisions, and problems and successes that occurred throughout, to arrive at the data collection stage. Additionally, I provide an account of analyzing my coursework questions, from former preservice teachers that described their digital literacies, personal and professional, as well as questions regarding blended spaces.

Methodology-in-Context

Gerber (2019) posited that qualitative researchers should attend to guiding parameters within their description of their methodological decisions post-research in order to ensure transparency, replicability, and trustworthiness. Gerber (2019) stated, that methodological procedures in context "provide readers details [of]…the data collection process and [to] provide a…road map for other doctoral students and scholars looking to conduct similar research" (n.p.). She stated that this is particularly important for doctoral student researchers and that it is important doctoral scholars have second chapters called "Methodology in Context" (e.g.,Butler, 2017; Gerber, 2008; Montenegro, 2020; Niemeyer, 2016; Stanford, 2020). These elements are part of an iterative process and, as such, may be addressed multiple times across one chapter or multiple chapters.

Institutional Review Board Process

I successfully defended my dissertation proposal December 7, 2018 and it was accepted from my committee with minimal revisions needed. Those revisions included:

a) a reference list for my citations; b) the secured location for my code list; and c) reconciling purpose and revising my research questions with the actual participants in the study (i.e., practicing teachers), not preservice (i.e., former students) teachers. I revised the proposal as needed and continued with my study.

My initial plan was to begin collecting data in mid-February, therefore, at the latest, I needed to submit my IRB protocol by the end of January. Because it was an expedited protocol, my chair and I discussed the timeline that it would take approximately two weeks from submission to decision. After the proposal defense I created the initial Institutional Review Board (IRB) protocol in the Cayuse system on December 11, 2017 and began the process of revising it in January 2018. At that point, I spent two weeks of revising the protocol for clarity with my dissertation chair to ensure a smooth routing process and to ensure that the members of the IRB would understand my research and the ethical considerations I was putting in place within my research. I completed my final submission of the IRB protocol on February 20, 2018 and my dissertation chair certified it on February 22nd. However, at that point, on February 22nd, it halted in the routing process. The protocol appeared to be with the department chair of the School of Teaching and Learning.

After one weeks of waiting for notification that my protocol had moved on in the routine process, I consulted with my dissertation chair on February 27th to see if there might have been a step I missed in the routing process; my dissertation chair suggested that I reach out to the IRB compliance officer, who could look in the Cayuse routing system to see if there was a reason it might be halted in the queue. The compliance officer then reached out to the department chair on February 28th to ask the department

chair to please route the protocol for review. Two weeks after the compliance officer sent the email, on March 18th, I received a notification from the department chair that she was rejecting my IRB protocol for the following reasons: a) there was no reference list for my citations; b) I did not name the secured location for my code list; and c) reconciling purpose and revising my research questions with the actual participants in the study (i.e., practicing teachers), not preservice (i.e., former students) teachers.

I consulted with my dissertation chair and we came up with a solution that would be amenable without having me jeopardize my research which was already committee approved and submitted it again on March 21st. I received a notification from the Cayuse system on March 23 that the department chair routed my IRB protocol to the next step in the routing process. On April 8, 2018, approximately two weeks after the department chair had re-routed my proposal, almost two months after my initial submission, I finally received the IRB's approved determination of my protocol. Copies of emails sent between myself and my dissertation chair are in Appendix F. The emails are about informed consent and routing of the proposal. There were issues with the proposal, seeming to be with the department chair of the School of Teaching and Learning, in which we discussed through emails. There are also representations of the emails from the IRB chair, concerning the delay in the submission.

This delay in the IRB routing process is important to discuss in understanding my data collection and some issues that I then ran into in recruitment and selection of participants, which subsequently impacts my limitations and delimitations. Under normal circumstances, I would not have chosen to do the interviews at the end of the school year, which in this case, was the first week of May. It took me a few weeks to recruit

participants after receiving approval, however, losing almost two months of prime data collection time, potentially impacted the quality of interviews. I conducted the interviews the last few weeks of the participants school year. My plan was to do them before spring break, which would have been a more ideal time. Teachers are distracted at the end of the year with things like testing, EOCs, and finishing up the school year. Because of waiting almost two extra months for my IRB protocol to be approved, it potentially impacted the content and quality of the interviews.

To make up for the time in which I could have been collecting interview data, I began analyzing my course work to compose the revised interview questions, which my dissertation chair and I had discussed would possibly be asked for in a revision from the IRB, as I only submitted potential question topics with my protocol. Since this was coursework from my classes, and my responsibility as reflective practitioner is to understand my own practice, and it also did not involve human subjects research or recruitment of any human subjects, my dissertation chair said that I could begin to analyze the coursework in order to create the interview protocol.

I used Provalis Research' s QDA Minor and WordStat, qualitative analysis research program analyzing tools, to examine responses from my former preservice teachers about digital literacies in coursework and personal use. I applied Keywords in Context, Word Count, and Thematic Analysis to develop interview questions based on these topics approved by my committee: a) instructional digital literacies within the lessons and activities of the coursework; b) personal digital literacies outside of coursework; and c) digital literacies being applied in the classroom. See interview questions in at the end of the study in Appendix A.

After approval by the IRB, on April 8, 2018, I began to contact the potential participants, however, I realized that there needed to be some modifications to my protocol submission for the member checking aspect of my research. Initially, I was going to do member checking in person, however, given the time crunch I was now facing with late interviews and summer break about to start for my participants, and the potentially long drives to the participant location to do member checks (up to four hours one way to interview a participant), I realized that my initial plan would no longer work. My dissertation chair and I discussed this, and I settled upon sending the participant interview transcripts by United States Postal Service for member checking. I submitted this as a modification in procedures to the IRB. The IRB approved submission of the transcription for member checking to be sent by postal service/mail in the original proposal, however, I did not include an address that would be used. Therefore, a modification was added to send any changes on the interview transcripts to my PO Box at my office, and it was approved on April 27, 2018.

Note, email communication with participants is in violation of Federal Regulations unless the email service used is an end-to-end encrypted. Encrypted email services can be costly and difficult to use for the end user/recipient, so I choose to use ground-based mail as the form of communication for receipt of member checking. I applied for the modification to this aspect of my research and got approval on April 27, 2019.

Initially, the review board approved the submission on April 8, 2018, with the suggestion of adding a footnote to the consent forms stating my post review completion date and the length of the study. Therefore, one final modification involved adding a

footnote to the consent forms. I added IRB-2018-215/April 8, 2018/April 7, 2020, as a footnote on April 24, 2018. These modifications were submitted on April 24, 2018 and accepted by the IRB on April 27, 2018. All the modifications were now approved.

After the initial contact with my participants, of which I did via telephone as approved by the IRB, several texted me back, instead of calling. Because texting was not an approved method of communication, I had to add another modification to the IRB protocol modification where the participants could respond to me by text messages, after recruitment. Text messaging was not a recruitment tool, it was only a mode of communication after I made the initial contact. Interestingly, but not surprisingly, the participants only want to communicate through text messages. Since it was still the school year and my participants teach all day, I wanted them to have the opportunity to text if necessary; if they needed to change the location or interview time/dates it was important for me to get that information in a timely fashion. I wanted to add this communication tool for their convenience. Therefore, we could communicate the day of the interview, clarifying that I was coming to the location where they chose.

Participant Search and Selection

After IRB approval, I looked through old coursework class lists, and engaged in purposeful sampling techniques. I selected 10-15 potential applicants who were in one or two of my classes, were in their first or second year of teaching, and those within a 100-mile radius of my location. The coursework of the former students also provided great discussions and feedback in class, as well as displayed great knowledge of digital literacies. I chose these potential participants to provide lesson ideas and suggestions to future teachers regarding the digital literacies' application. Note, I only noted these as

potential participants and I did not officially recruit any participants until IRB approval. Table 5 displays coursework, assignments, digital literacies, and lessons of the 10-15 potential participants (all names are pseudonyms). I chose these assignments as they had digital literacies and technological applications components.

Table 5

Preservice Teachers' Assignments in RDG398 Literacy Needs of Diverse Learners

Potential Participants	What is Literacy?	Reading Strategy	Assessment Collection Assignment
Stephanie	Academic Discourse	Vocabulary	Google Slides
Jana	Accountability	Expository Texts	Powtoon
Kelly	Life-Long Learners	Narrative Texts	Canva
Kristi	Metacognition	Background Knowledge	Piktochart
Brooke	Out-of-School Literacies	Graphic Organizers	Glogster
Betsy	Schema	NoteTaking/Making	Emaze
Jordan	Digital Literacy	Informational Texts	Pikto Chart
Cole	Technology Medium	Media Literacy	Prezi
Julie	Visual Literacy	Accessible Text	Poplett
Jordan	Funds of Knowledge	Literacy and Language	NearPod

Table 6

Preservice Teachers' Assignments in SED 450 Assessment for Diversity

Potential Participants	ML Lesson Plan	Journal Entries	Discussions
Amy	Andrew Jackson's Impact – Fact or Fake News	Blogger	Drop Everything and Read
Jana	Human Activity on Ground Water and Surface Water in Watershed – YouTube Video	Edublog	Informal Assessment
Kelly	Equivalent Expressions – Clue	Weebly	Cold-Calling
Kristi	Experimental and Theoretical Probability – Exit Ticket	Blogger	Socrative Seminar
Brooke	Volume of Rectangular Prisms – Picture Cards	Powerful Pens	Read Alouds
Betsy	One-Step Equations – Who Wants to be a Millionaire?	Blogger	Post-It Notes
Jordan	Lateral and Total Surface Area – Exit Ticket	Kidblog	Generative Sentences
Cole	Physical Properties of Sun and Planets – R.A.F.T.	Weebly	Facebook vs. Fakebook
Julie	Inequalities – Connect Four	Math or Reddit	Grouping Strategy
Jordan	Tone vs. Mood – Anticipation Guide	Stack Exchange	Formal Assessments

Note. These assignments were submitted by field placement interns in their assessment's course. They were analyzed and helped form the interview questions.

After IRB approval, I called all the potential participants using the approved recruitment phone script to invite them to participate in my study. The phone script protocol is in Appendix B. I used the records of my past coursework and students teaching profiles to gain access to their cell phone numbers. Of the 10 participants I

called, the first four respondents who said “yes” happened to be females, in their first year of teaching. The fifth respondent called the next day and agreed to participate as well. I was thrilled to get started! I knew my timeline was short because of the initial almost two-month delay in the IRB routing process, so I needed to get some available dates for them right away.

I settled on six separate dates over a two-week period, making sure that the times selected suited a full-time teaching schedule. I called the participants so they could select the dates and times when they would be available, as well as allowed them choice of location for the interviews. They all teach during the day, so many stated that after school would be best. Easter break fell in this phone calling process, so that was another two- to three-day delay. I scheduled five interviews right away: two in the Southeastern area of Texas and three in the Northern Central area of Texas. The sixth potential participant never called me back after our initial conversation. So, I was stuck once again with having to wait another few days. I thought about calling the original four who did not reply, however since they did not return my phone call, I called another potential participant in the East Texas area, closes to where I live. Amy agreed to the interview, thank goodness. I felt so excited and relieved to finally be starting the process.

Issues I saw that could possibly affect results of my study, are the participants are all females and are in their first year of teaching. I did not have any male participants or any participants in their second year of teaching agree to participate. Although I would like to have had a few male participants, the female respondents were the only ones who returned communication and agreed to participate. Looking at the female to male ratio of middle level teacher preparation teachers, it is not a surprise to me that more females

responded. I called eight females and two males. Male participants can be a topic for another study involving how they see their digital literacies in their own teaching, possibly five to ten years into their teaching career.

Before my interviews, I printed the interview questions, printed the Informed Consent and Detailed Consent forms, two each, so the participants could have a copy and I could keep the signed copy. Then I mapped out my journey to each participants' choice of location. Two of the participants chose to use their classroom and the other four chose Starbucks (i.e., coffee shop). Starbucks was not a choice I would have picked because it has been known to be loud inside. However, ironically, it seems that many of my participants seem to enjoy the noise; sitting around at the coffee shop, visiting, working, and drinking coffee. Although it was loud, I was able to secure quieter locations that were private, where no one could hear our discussions.

Transcribing and Member Checking

To ensure credibility of the interview, I transcribed each individual interview, with the assistance of an online transcription service called Transcribe Wreally. This free online transcription service allowed me to transcribe manually, using their workflow tools that slowed down my audio and auto looped it back three seconds, for quick review. I also paid the fee of $20 to convert audio to text with automatic transcription for each interview. The first interview I did not use the automatic transcription, however when I used it for the second participant's interview, it saved me two hours. After discovering the hours saved, I decided to transcribe the final four interviews using the automatic transcription as well. A table in Chapter VI provides the amount of time it took to

complete the interview, transcribe the interview, and finally write the information on each participant.

Member checking is a procedure completed by the participant that allows her/him to read over the report checking for accuracy and true representativeness of the information provided (Manning, 1997). Member checking will help triangulate the interpretations of the participant's interviews (Stake, 1995). I included a self-addressed stamped envelope within their transcription envelope to send back to me if they found any errors or needed to make corrections and additions to their answers. These were to be sent to my PO Box address at my office after member checking. After the data were collected and transcribed, I informed the participants that the interview transcriptions were ready.

Peer Debriefing

Benge, Onwuegbuzie, and Robbins (2012) outlined specific methods of increasing credibility such as engaging in debriefing interviews and self-reflection to construct a credible interpretation. A debriefing interview (i.e., peer debriefing) will be held after member checking, with my dissertation chair, because of her understanding of the research topic and the relationship we have established. Debriefing questions were co-constructed by my chair and myself and were descriptive in nature. The informal debriefing interview was completed through an online communication platform called Zoom. The discussions and questions consisted of: (a) traveling, (b) participants, (c) and chapters of the study. The discussion included thoughts on comfort level, personal connections, and surprise findings.

This qualitative research study will provide me with actual coursework revisions and suggestions from my former preservice teachers, discovering what digital literacies they took away from their teacher preparation program and what they are implementing as teachers in their classrooms today. In the initial debriefing with my chair, we discussed completing a total of six chapters – (1) introduction; (2) literature review; (3) methodology; (4) methodology in context; (5) findings; and (6) implications. However, after reviewing the first three case studies within chapter four, we decided to add a seventh chapter. The chapters are now: (1) introduction; (2) literature review; (3) methodology; (4) methods-in-context; (5) interviews; (6) findings; and (7) implications.

In the initial debriefing meeting, I was not sure how long to wait for the participants' member checking. Dr. Gerber, my dissertation chair, suggested that I text each participant, providing a 10-day window, May 24, 2018 – June 3, 2018, to return the transcribed data for completion of member checking. I included in the text that if I did not hear back from them, or if they did not mail the transcripts back by June 3, I would continue on to analysis, and assume that they had no changes to make. Upon the conclusion of our Zoom debriefing interview, I texted each of the participants individually. Two participants texted and stated, "No changes." The other participants did not respond or send the transcripts back, therefore member checking led to no changes.

Analyzing Coursework for Interview Questions

Analyzing my coursework was a process that was a lot of fun. I enjoyed taking the comments from my preservice teachers and applying them into the Provalis Research tool, QDA Miner. The questions I asked my preservice teachers in their coursework were: a) How do you define digital literacies? b) Where do you see digital literacies

applied in your future classroom? and c) What type of blended spaces to you see for your future classroom? While these questions are not the equivalent of the questions guiding my research, they provided the necessary themes to guide the development of the interview questions for the participants. The interview questions are included in Appendix A.

Summary

In Chapter IV, I have described the experiences and stumbling blocks that led up to the data collection stage of my research. Additionally, I provided the IRB process, participant selection and search, and member checking with my participants. I concluded with the debriefing meeting with my chair. In Chapter V, I start with a narrative of the coursework in the teacher preparation program where the participants were former preservice teachers. Following the narrative are visual representations of the assignments I analyzed. Lastly, the results of the findings of key-word-in-context and word count methods that developed into codes are presented. I used these results to create interview topics for the interview.

CHAPTER V

Corpus Analysis and Findings in Coursework

Chapter Overview

Chapter V begins with a narrative of the coursework in a literacy methods course and a second-year field placement course in a teacher preparation program at Mid-South University where I am employed. In this chapter I discuss how I analyzed 151 assignments representing 131 students. Following the narrative are visual representations of the type of the lesson plans, course assignments, and readings that the preservice teachers enrolled in this course completed in one semester. These discussions and readings regarded literacy, digital literacies, and technology in their courses and integrations in their field placements. I then provide coursework analysis results derived using Provalis Research, QDA Minor. Figures 5.1 - 5.5 and Tables 1 and 2 are representatives of these findings, signifying the codes.

Introduction

As a teacher in higher education, I strive to experiment with as many digital literacies and technology tools in the class as possible. My classroom and coursework boast of online discussions, student-centered response system apps (i.e., Kahoot, Poll-everywhere), digital lesson plans, and social media inclusion. My concerns with using these digital literacies and technology tools in the coursework in a teacher preparation program were that preservice teachers were not transferring their use of using digital literacies for anything other than social events and activities. I feared that the pre-service teachers were not using them in any type of professional educator setting. As mentioned by Sloane, in a classroom discussion about applying at technology tool to a group project:

> I understood – I was already transitioning from a learner to a future educator with technology, like sub-educator kind of. But there was definitely a transition period. And I do remember a lot of my peers in your class struggling with the transition and it was sometimes difficult because in a group setting when we're working on a project, 'It's like okay, we need to get off Netflix and get back to this Google Doc.' But yeah, it was noticeable, so it [transitioning from using it socially vs. as an educator] is an issue.

I want to make sure I am providing the best opportunities for preservice teachers to make the conversion in practicing using digital literacies and technology tools for educational and professional purposes rather than only social purposes. Knowing that I am providing as many possible occasions for future teachers to apply digital literacies within their lesson plans throughout their teacher preparation coursework and into their first years of teacher, are important steps in my practice and my research as a higher education instructor.

I tried to think about how to provide preservice teachers the opportunity to learn about digital literacies and technology tools. Many of my preservice teachers never caught on to the difference of digital literacies and technology. These quotes were stated in a discussion board post by two different preservice teachers during coursework that showcase their definition of digital literacies.

> Digital Literacy is the ability to navigate through any technology domain. Even if you are unfamiliar with the technology being used,

> you can teach yourself how to use it... because you are able to make inference and use your background knowledge to learn - Sloane. Digital literacy is the ability to navigate, comprehend, analyze, and create things using media and the internet - Kate.

Realizing the discrepancies in students' answers, I discerned coursework alterations to provide information on the separation of the two. After much reading, researching, and studying, I decided to analyze the student coursework from two of years of my teaching and to conduct semi-structured interviews with my former preservice teachers in order to generate case studies of how novice teachers use digital literacies as learned from their coursework, both personally and professionally, after their pre-service teacher education program. Not only was I intending to analyze their previous coursework, I planned to interview my former preservice teachers, now classroom teachers, about the intersections of technology and digital literacies in their own classrooms; again, how they engaged in both personal and professional use around digital literacies. This quote is from one of the participants, Amy, describing their intersections of digital literacies and the literature circle assignment:

> I just really didn't get much um, I just didn't really understand it (i.e., digital literacies) as well; right now, them (i.e., students) implementing their strategies that like, I just couldn't get a good grasp of that information. And I guess now, now we are implementing something new, such as the calculators (i.e., TI Inspire). I personally don't know how to use a calculator, like the ones they have now.

Analyzing my coursework was a process that I enjoyed a lot. I appreciated taking the comments, assignments, and activities from my former preservice teachers, and analyzing them using Provalis Research (2014) QDA Miner for Keywords-in-Context and Word Count, packaged within QDA Miner – Word Stat. When pre-service teachers take teacher preparation courses, I ask them three questions to guide my development of lessons around digital literacies practices and assignments: a) How do you define digital literacies? b) Where do you see digital literacies and/or technologies applied in your future classroom? and c) What type of blended spaces do you see for your future classroom? Although these questions are not the equivalent of the questions guiding my research, they provided the necessary framework to steer the development of the semi-structured interview protocol for this study, which I used with my participants (i.e., inservice teachers). The interview questions emerged from a series of themes generated from the analyzed coursework data. Those findings are located in Chapter 7: Findings.

Decoding involves reflecting on selected data to determine its core meaning. On the other hand, encoding is investigating specific codes and labeling them (Saldana, 2017). I decoded coursework to determine its underlying value; then I determined the codes and labeled them (i.e., encoding) through the QDA Miner functions word count and keywords-in-context. These codes represent the ‘first impression’ phrases derived from the initial coding and guided my development of the semi-structured interview questions. Those questions and interview protocol targeted for my six participants are also found in Chapter 7. Figure 5 portrays the initial codes originated from coursework analysis.

Figure 5. Word count initial coding. First impressions phrases from initial coding regarding preservice teachers' future digital literacies, classroom application, and blended spaces.

Coursework Analysis

The coursework was collected over a two-year span and it involved applying digital literacies in lesson plans and assignments, as well as readings and discussions of literacy, field placement, and digital literacies and technology. This section provides collection of information on two tables of coursework. Table 5 includes activities from a

course entitled ‘Literacy for the Diverse Learner ‘- face-to-face and online course for preservice teachers. Many of these preservice teachers are involved in an actual classroom as interns, which involves two mornings a week in an elementary classroom, for conducting observations and teaching in grades four or five.

Table 7

RDG 398 Literacy for Diverse Learners

Lesson Plans	Course Assignments	Readings
Module 1: What is Literacy?	What Is Literacy? Google Doc Assignment. You are doing this assignment asynchronously: choose a term, provide the academic definition, friendly definition, and a visual of your term – all cited.	Social Media and Literacy Stufft, C. J. (2013). It Started with Iced Cappuccino: Social Media and Social Good. *English in Texas*, *43*(2). Teaching in the #AgeOfLiteracy: Nelson, J. (2015). Teaching in the #AgeOfLiteracy. *LiteracyToday*.
Module 3: Comprehension of Narrative Texts	Narrative Reading Strategy. The strategies offered in section III of your DCAL text are Annotation, Interactive Think-Alouds, Inference Strategy Guide, The Inquirer Strategy, and Active Interpretation of Film. For your third Reading Strategy Assignment, students are to use a textbook YA novel, or a piece of	Antonacci, P. & O'Callaghan, C. (2015). *40 strategies for middle and secondary classrooms: Developing content area literacy.* Sage. 2nd edition

	accessible text to complete a narrative text strategy assignment.	
Module 8: Literature Circle Questions – Preservice teachers are asked questions for discussion at the beginning of the LC Unit	1. How do you define digital literacies? 2. Where do you see digital literacy integration in your future classroom? 3. How can technology be included in classroom instruction? 4. Where do you see literacy and technology meeting paths? 5. What type of blended spaces (i.e., physical or virtual spaces where people interact around a common interest) do you see for your future classroom?	Young Adult Novel – Student's choice of selected novels.
Module 10: Assessment Collection	Assessment Collection Assignment. Groups will prepare an application of assessments (both formal and informal) of one these six reading concepts– reading fluency, narrative or informative	Chapman, C. & King, R. (2008). *Differentiated instructional management: Work smarter, not harder.* Corwin.

	critical thinking, or writing.	
Module Warm-Ups	Students will create various products that reflect class topics and models of instructional and comprehension strategies they can later apply to assignments with students in the classroom. They will include, but are not limited to: Bell Ringer Activities, Google Doc Assignments, Admit Slips, Exit Slips, and Socratic Student Quizzes. These would be turned in through D2L at the beginning, middle or end of each module.	Both textbooks mentioned above. Articles – From International Literacy Association (ILA) - https://www.literacyworldwide.org/docs/default-source/where-we-stand/ila-improving-digital-practices-literacy-learning-justice.pdf; Robertson, Claire and Lange, Silke (2017) 'Looking: Thinking: Making': How is digital culture influencing practice? Spark: UAL Creative Teaching and Learning Journal, 2 (2). pp. 139-143. ISSN 2397-6594

Note: Taken from Reading (RDG) 398 Literacy Needs of Diverse Learners

The coursework delivered in this class is compatible to other field placement courses, so preservice teachers can apply assignments created to their lessons in schools with actual students. Table 6 provides examples of activities in the course 'Middle Level Grades Field Placement Lab II', where preservice teachers are in the classroom two days a week, working with middle level students, observing, lessons, and interactions. The coursework supported in the school setting and is applied to authentic lessons preservice teachers are delivering to students.

Table 8

MLG 403 Field Placement II

Lesson Plans	Course Assignments	Readings/Technology
Technology Integration	Preservice teachers are required to include technology in one lesson plan taught to their ML students.	Blog – https://blog.sewickley.org/9-ways-to-use-social-media-in-your-classroom; Glazer (2017) https://www.literacyworldwide.org/blog/literacy-daily/2017/02/22/how-to-use-multimedia-in-your-classroom?utm_source=TW-02282017&utm_medium=email&utm_campaign=ThisWeek&utm_content=PopularOn-2
Work Sample	Candidates will create and video one lesson during lab and use it to complete their Benchmark Work sample.	Lesson plan templates from course packet. Examples of previous lesson plan reflections, evaluations, and assessments. Video recorder, phone, or Laptop, Smart Board or OH from computer,
Literacy Strategy Integration	Reading Strategy – Preservice teachers create six reading strategies incorporated with digital literacies: strategies include vocabulary, writing, anticipatory activities, comprehension, fluency and reading.	International Literacy Association Website – While the one provided here is 2019, earlier versions were used. https://www.literacyworldwide.org/blog/digital-literacies
Journal Entries	Candidates will complete eight journal entries based on their observations and reflections on best teaching practices, technology uses, and strategy applications.	D2L (University learning management platform) Discussion Board

Note: Taken from Middle Level Grades (MLG) 403L - Field Placement II

As I reflected on lesson plans and daily agendas that I had prepared for the class, I recalled discussing with students how digital literacies and technologies differed, as well as defined digital literacies multiple times throughout the coursework. Phrases such as

"this is a digital literacy, not a technology tool" or "these digital literacies are being practiced here" was something I remembered mentioning; however, I did not recall ever having students write down differences and similarities in a chart or table. One difference is to provide a framework of using technology to support the innovative digital literacies in coursework and beyond to help deepen students' learning.

The questions I asked at the beginning of the Literature Circle Unit in the literacy course, RDG 398, provides a great example of incorporating digital literacies and technologies into the coursework curriculum. Preservice students selected a young adult novel from a list I provided and sculpted into groups for discussion. These novels relate to children that are attending public school and personal issues they are dealing with, both in-and-out of the school setting. A critical climax of all the novels involves student tragedy, struggles, and/or disabilities and how teachers respond to their students' problems, issues, or emotions, usually in a negative way. Their discussions and activities provide opportunities to alter the choices of the teachers, to what they think would be the right thing to do in the circumstances. During the literature circle unit, these digital literacies are presented: reading, discussing, creating memes, and responding - all in D2L (Desire2Learn), the university's learning management platform software.

The final lesson in the literature circle unit includes an over-all reflection about the novel, how diversity played a part in actions and decisions made by the teachers and students, and how making the right choices as teachers can affect students the right way. Preservice teachers applied discussions, readings, postings, and reposting in a digital platform of their choice, (i.e., Animoto, Glogster, Canva, Wordle). Reviewing the unit's assignments, discussions, and final technology assessments, these provided the most

intersections of digital literacies and technology tools for the preservice teachers professionally (i.e., in education).

Another major assignment in the reading course is the Assessment Collection Assignment. Preservice teachers created reading strategies throughout coursework relating to vocabulary, fluency, comprehension of narrative and information text, critical thinking, and writing. They created these strategies for their future students in the Middle Level Grades (MLG) course, according to their content. The last part of the strategy was to attach an assessment and how it would be used informally or formally to learn the growth of their future students. These assessments were then embedded in their assessment assignment. Preservice teachers could choose two out these six pillars of reading - reading fluency, narrative or informative comprehension, word analysis, vocabulary, critical thinking, or writing. They included two formal assessments and two informal assessment for each pillar. Researching, application of student data, reading, listing, organizing, and online resources were digital literacies used to complete this assignment, along with applying the appropriate technology tool for presenting it to the class. The technology tools have been introduced to them throughout the semester within the course, although they can use other technological presentation resources.

For the Middle Level Grades course, preservice teachers are to include digital literacies and technology in at least one out of their three required lesson plans. Issues that have been proven problematic were Internet shut down across campus at their field placement schools, mentor teachers lacking technology tools, or mentors who control the lesson and how they want it delivered to their students. I have observed Power Points and Prezi slides, manipulatives and quizzes (i.e., Kahoot, Socrative Student), as well as

lectures and note taking, usually guided by a type of graphic organizer. These preservice teachers also must turn in a work sample that involves video recording and reflecting on one of these lessons. They video record the lesson and compose pre/post assessments to evaluate their students on the lesson. The preservice student reflects on their teaching pedagogy, and evaluates their lesson structure, as well as a peer's lesson presentation.

Digital literacies that I observed are not always reflective of what pre-service teachers perceived as digital literacies in their lessons. In reflections of defining these literacies, they often mention a device utilized, such as Smart or Promethean Boards and iPads or Chromebooks, instead of actual digital literacies. The digital literacies definition that I wish for them to grasp and build upon needs to be applied and defined early within the course, as literacies, not tools that drive the lesson. Reflecting on these practices, I realized I need to have a definite separation of digital literacies and technology and how they differ in personal, professional, and school applications. My reflections and altered coursework assignments are discussed in chapter 8, including projected findings. Possible definitions from national organizations and expert scholars that I can apply in future coursework:

> Digital literacies are new and ever-changing ways we use technology to receive and communication information…the broader range of skills, from reading on a Kindle to gauging the validity of a website or creating and sharing YouTube videos (Heitin, 2019). Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills (American Library Association).

In order to provide a visual perception of digital literacies definition, future blended spaces, and technology integration for the preservice teachers' future classrooms, I coded the data of the coursework questions from the Literature Circle Unit, as well as the other assignments listed previously in Table 5 and 6. I applied keyword retrieval and coding by variable functions of QDA Miner to the initial coding, which led to the themes and sub-themes. Figures 6 - 8 illustrates digital literacies that include online resources, old and new literacies, and technology.

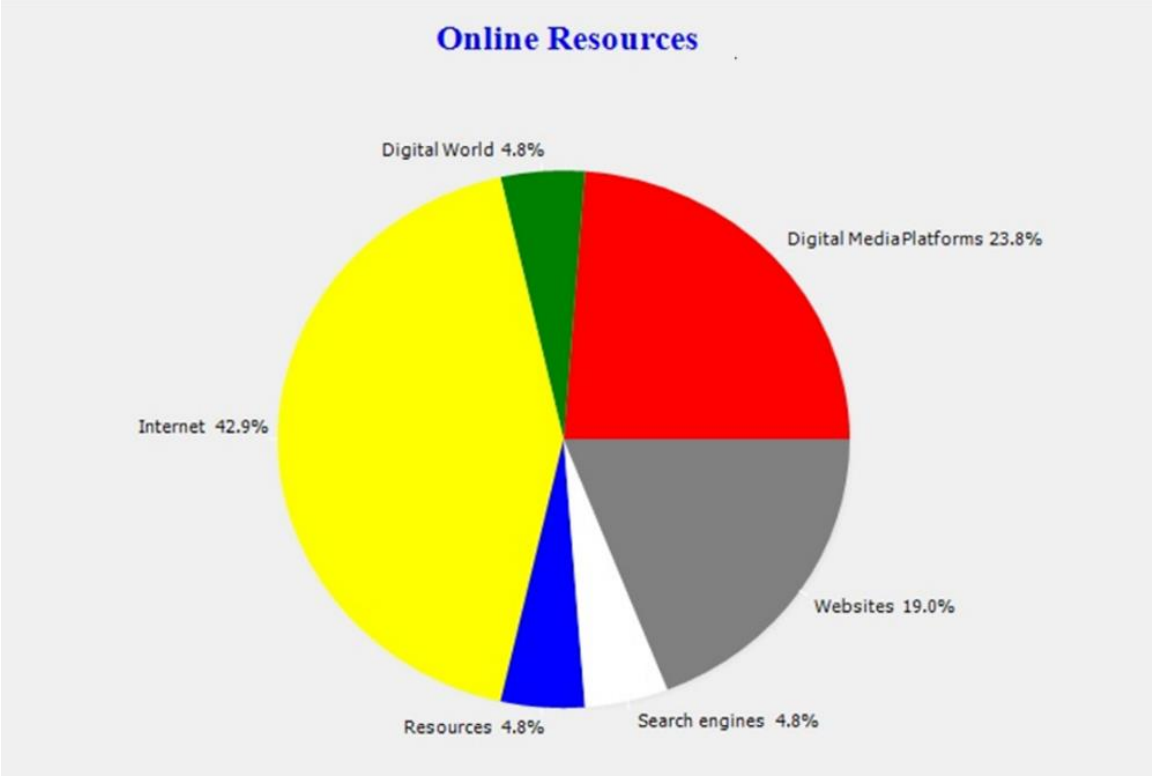


Figure 6. Online Resources. These resources were reflective of preservice teachers' practices of online resources from their assignments, discussions, and lessons.

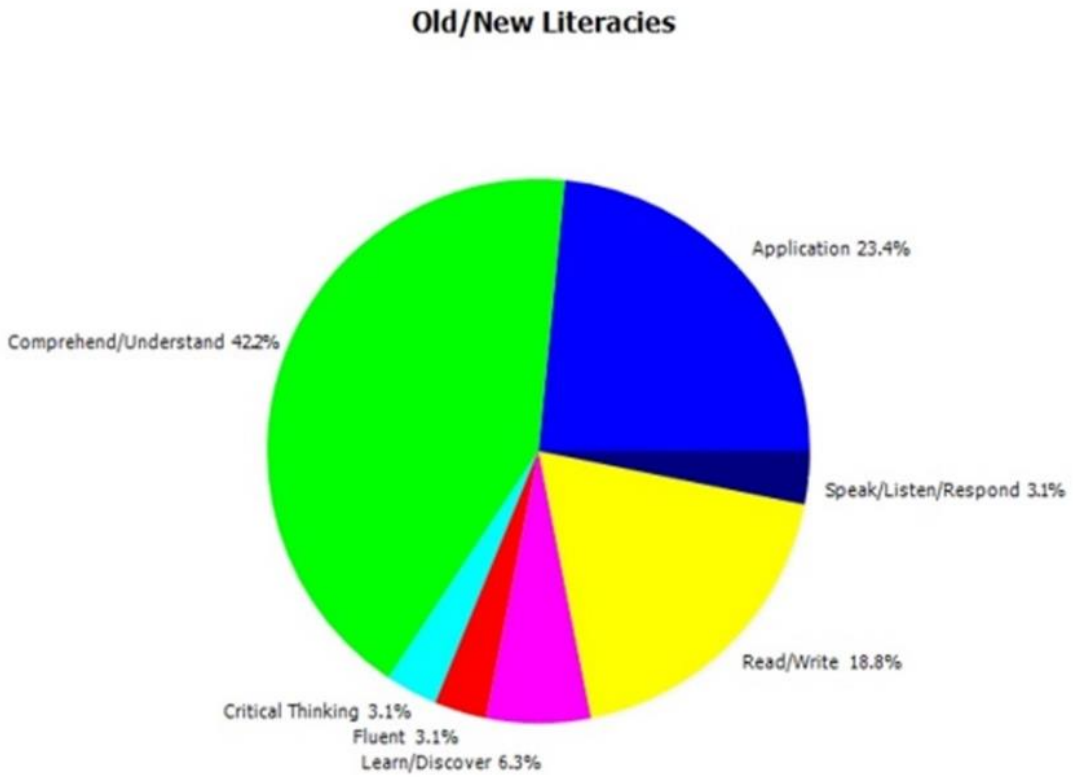


Figure 7. Old and New Literacies. These old and new literacies are examples of what preservice teachers' activities and actions were in their teacher preparation program, as well as how they see their future activities and integrations of digital literacies in their classrooms.

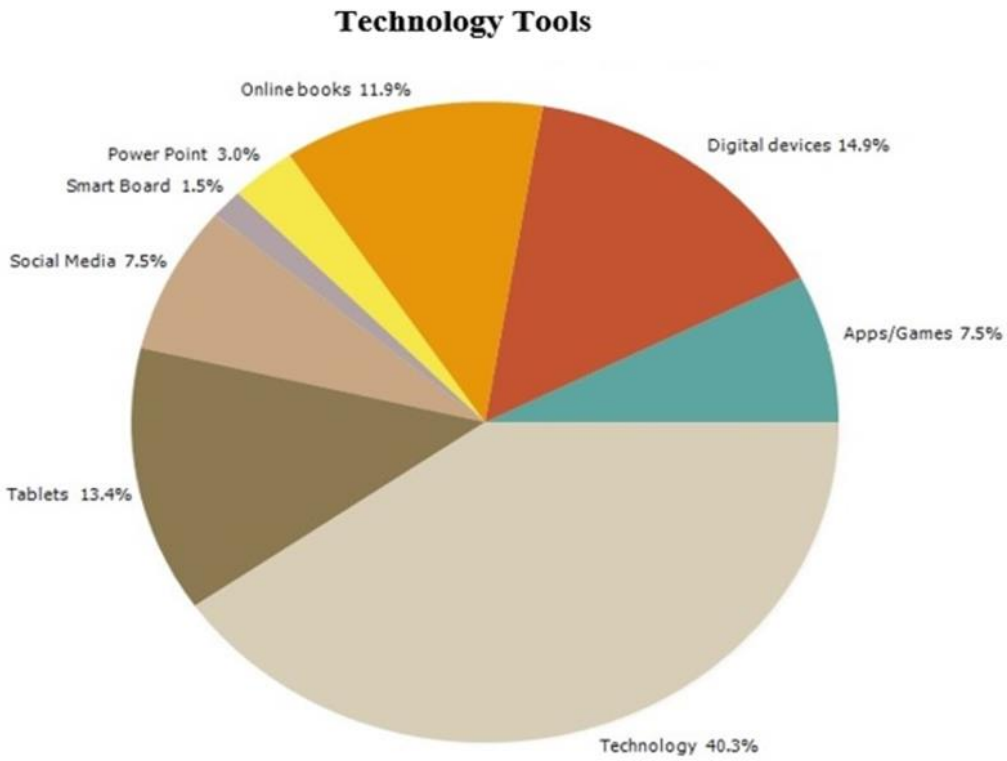


Figure 8. Preservice teachers viewed these technology tools as tools they were using consecutively with online and face-to-face learning.

A second set of codes from blended spaces that derived from the coursework were the following: face-to-face, online/Google classroom, technology, structure/décor, unsure of topic, games, and fear-of-balance. According to implementations in blended future classrooms, my students wanted to include technology in their classroom instruction and learning. Figure 9 depicts technology as being the highest choice of what will be included in their blended classroom. Less emerging factors surrounding their future blended classroom included using face-to-face activities and free online web-services (i.e., Google Classroom). Balancing out the structure of the future classroom included décor and games to guide instruction. A small percentage of preservice teachers were afraid of applying a balance to the face-to-face classroom with an online classroom, as well as a

small percentage not knowing exactly what a blended environment encompassed. As indicated by Cole in Literature Circle Assignment 3:

> I hope to run a classroom that is a successful representation of a blended classroom that can function and incorporate technology in a fun and engaging way. Creating a class website would be a great way to communicate with students both inside and outside the classroom. We created that communication with this assignment – we read outside of class, posted our thoughts on the discussion page, then came to the classroom and shared our thoughts with each other.

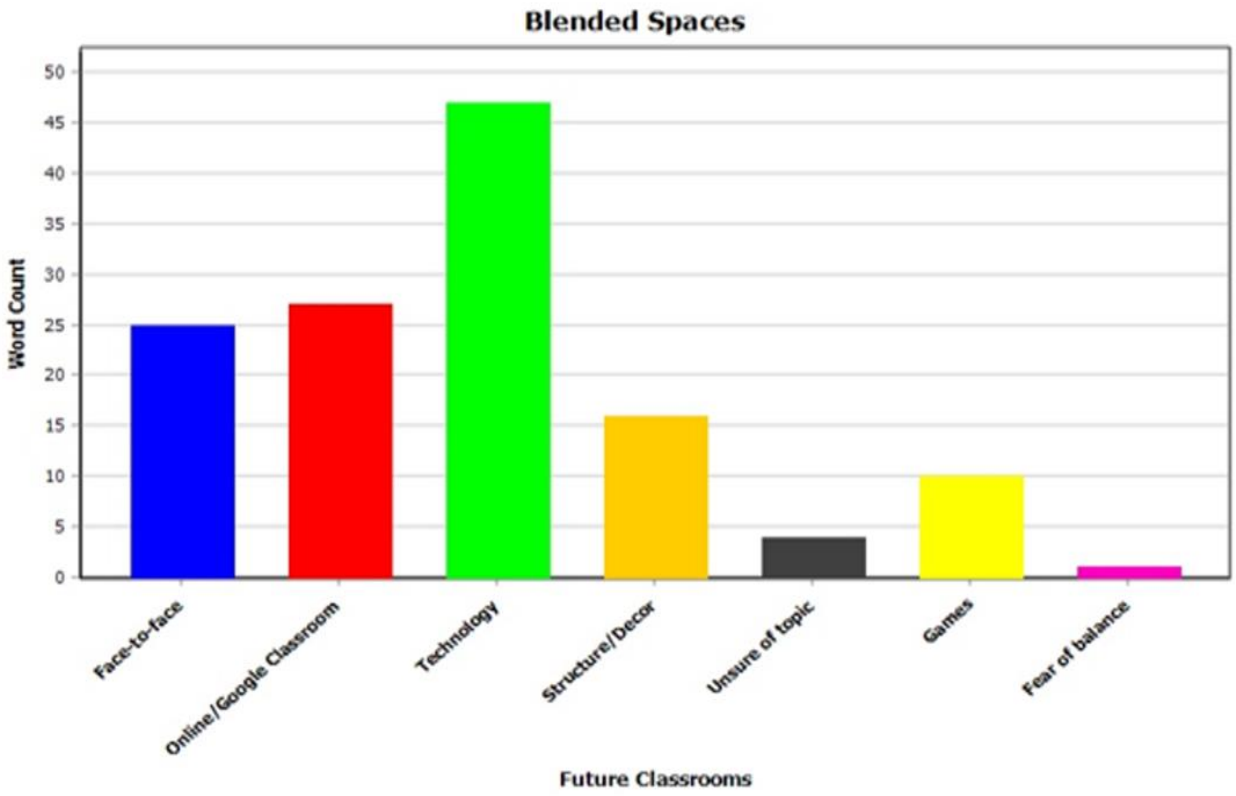


Figure 9. Blended Spaces. Preservice teachers' ideas of their future classrooms were a mixture of online and face-to-face.

Discovering Emergent Themes in Coursework

Word Count Findings. Leech and Onwuegbuzie (2007) suggested word count method will allow the researcher to understand the importance of specific words by counting how many times participants use them in qualitative research. I incorporated data from 151 assignments representing 131 students into word count and derived codes that helped provide an understanding of preservice teacher' digital literacies, classroom application, and blended spaces, for their future as classroom teachers. Data initially coded as preservice teachers' digital literacies, classroom application, and blended spaces were categorized under these themes: definitions, practices, and future applications. Sub-themes emerging from these included: background knowledge, technology tools (i.e., search engines, smartboards), and student interaction and research. These themes, as well as those from key-words-in-context (KWIC), provided information to support my interview topics, which then transformed into my questions for participant interviews.

Keywords-in-Context Findings. Next, I employed the keyword-in-context coding cycle to coursework data. The following codes were recognized: ability, literacy, classroom, computer, discussions, online, websites and technology. As an outcome of applying KWIC to the initial-coded data, the previous codes were categorized under these major themes: online resources, online interactions, old and new literacies, and technology tools. Students' online interactions within their teacher preparation coursework and digital tools that they use within their teacher preparation coursework are represented in Figure 10. The preservice teachers' over-all digital literacies practices for their future classroom are represented in Figure 11.

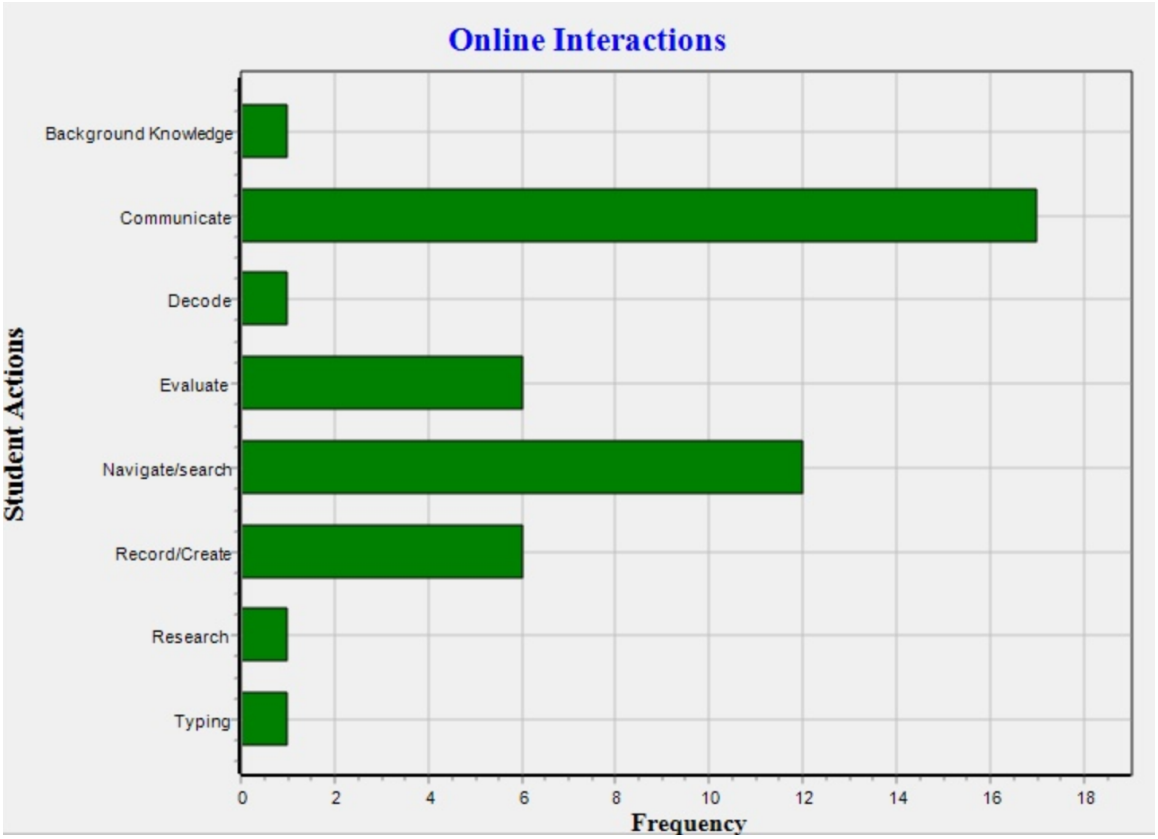


Figure 10. Preservice teachers' ideas of what they want for their future students to be engaged in online interactions in the classroom.

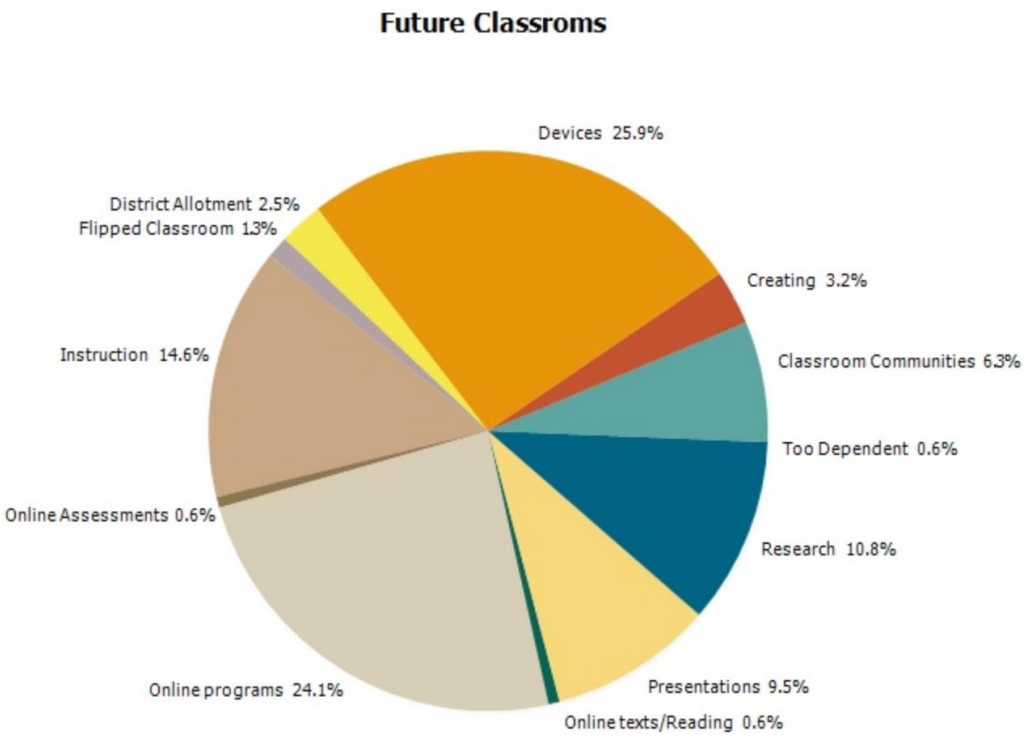


Figure 11. Preservice teachers' actions in their future classrooms included resources, interactions, digital literacies, and technology tools.

Preservice teachers' discussions and bell ringer posts were their top online interactions in coursework; this included language such as communication, navigating and searching, evaluating, and recording or creating. On the other hand, through evaluation of their coursework, students indicated that decoding, building background knowledge, researching, and typing are the lowest areas of online interaction in their teacher preparation program. However, the Work Sample reflections indicated students plan to apply decoding, building background knowledge, and typing in their future teaching lessons and activities. The highest online resource they used in their teacher preparation program was the Internet at 42.9%, followed by digital media platforms (i.e., D2L, Google Classroom) at 23.8%. Using websites as online resources rated 19% with

digital world, resources, and search engines coming in last at 4.8 %. As indicated in a discussion board post by two students about the literature circle assignments:

> Technology can be integrated everywhere in the classroom, like I've seen in the teacher preparation program. I'll use it to let my students create and research their future projects online. I will also apply smaller applications, such as using a SMART Board, Elmo, or websites for games. - Allie
>
> As a teacher, I would like to use quizzes, research, Promethean boards, and games. Calculators will be used in my classroom as well. Anything I can get my hands on that would be great technology resources for my students - Carly

Provided findings of multiple themes of types of tools, I discovered again, technology as number one instrument used most in coursework. Figure 5.8 portrays the technology tools students mentioned they used in preservice teachers' preparation program. Preservice teachers labeled digital literacies and digital devices (i.e., tablets, mobile phones) as two separate entities, whereas I would label them in similar categories, one assisting the other - digital literacies as interactions with digital devices or tools. Also, when they mention online books, more than half mentioned they personally do not like to read textbooks online, however they want to implement them for their future students. As Karys stated in a discussion board post regarding her future classroom spaces:

> As a reading teacher, I plan to have reading zones and reading circles in my classroom. I want to have digital books on iPads, so students are learning how to integrate technology as well as read together.

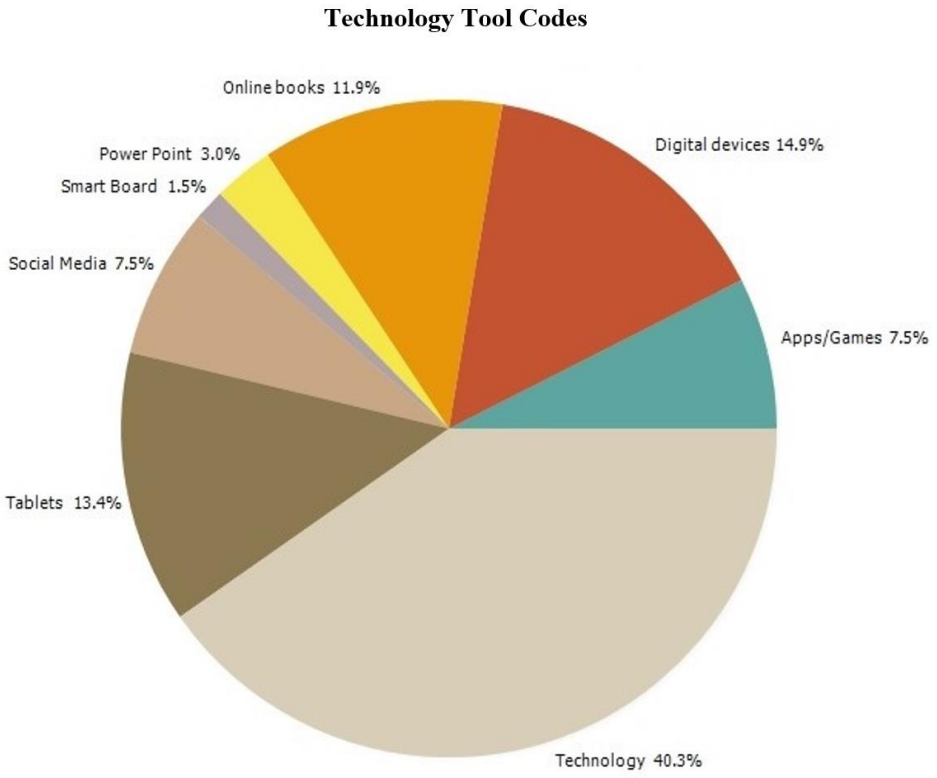


Figure 12. Technology tool application of preservice teachers in their teacher preparation program. These include devices, media, apps, and games.

As an educator, reflection is important in my teaching and coursework. I have always reflected on my lessons and students' success, trying to determine if my students were progressing in my classes as futures teachers. The greatest struggle I recognize is their connection of digital literacies and technology application to their lesson plans and in a professional educational setting. Preservice students' digital literacies and technology practices seemed to be applied to social settings. The students who have been introduced to these applications in high school, with lessons and activities in the classroom, notice that the activities do not really change. The lessons are not different, students are not acting differently, the issue seems to be a different platform or device that is in their hands, not the lesson itself.

Summary

In Chapter V, I portrayed the findings of the coursework analysis from KWIC and word count in order to develop interview questions for the participants. Key topics included online resources, online interactions, old and new literacies, and technology tools. From these themes, major interview topics emerged, which helped me to develop the interview questions that I would use with my six participants. Analyzing the existing codes and mapping them to create themes, I applied thematic analysis for the participants' interview questions, which is detailed in Chapter VII. Next, Chapter VI illustrates the detailed case descriptions of each of the six participants selected for inclusion in the interview portion of the study.

CHAPTER VI

Description of Cases

Chapter Overview

This chapter presents a description of each participant, former preservice teachers enrolled in my courses and now as teachers in their first-year classroom. I begin with a view of my stance for interviewing (i.e., romantic and social constructionist conceptions), the criteria used to select participants, and a description of each participant. I also include a visual representation of an overview of the participants. I conclude with a summary of the chapter.

Cases of Six Participants

Criterion sampling was used as a purposive sampling strategy to select my participants. These in-service participants were selected based on pre-determined criteria that provided me detailed and generalizable information (Palinkas, Horwitz, Green, Wisdom, & Hoagwood, 2015; Patton, 2001) about their experience with the digital literacies in their teacher preparation program, and on a personal and professional (i.e., in the classroom) basis. These criteria included males or females who (a) had been enrolled in one of my face-to-face courses, (b) participated in class and online discussions, and (c) demonstrated confidence with applying digital literacies and technology in their coursework or showed growth over the course span of 15 weeks. Their current teaching placement/location was to be within a 100 - 200-mile radius of my hometown, at a Title I school, and completing their first or second year as teachers.

The six in-service teachers selected for the interview portion of the study were selected due to their enrollment in a Teacher Preparation Program (TPP) where I am an

instructor. These former preservice teachers were enrolled in one or more of my face-to-face courses at Mid-South University, had graduated, and were completing their first or second year as classroom teachers in a Title I school. I observed these participants as preservice teachers in my coursework in an actual classroom three times; they were to create and teach lessons to their Field II placement students. The second and third lesson were to include digital literacies and technology application for their student – created lesson and used for their own work sample. The work sample included videoing the lesson, reflections on their successes or revisions, data collection and analysis from a pre and posttest.

Five of the participants were enrolled in one of my face-to-face courses where they applied digital literacies to their created classroom lessons, which they were preparing for their field placement students or future students in their future classrooms. I also observed these five participants grow strong in confidence developing their own teaching style with digital literacies over the course of the semester. The sixth participant, Amy, was chosen last, because one participant who originally agreed, never responded after the initial contact. Amy was not enrolled in one of my face-to-face courses, which was one criteria; however, because of her close proximity to where I live, she was enrolled in the online field placement, and the fact that I did see her teach and show improvement over three lessons, I asked her to participate. This worked out better for my research, in that Amy did not demonstrate strong digital literacies application or being comfortable during her lessons in her field placement classes. Although, she did improve from lesson one to lesson three in management and comfortability with her students.

As a result of knowing all of my participants in a teacher-student relationship, a strong rapport was established preceding the interviews; therefore, it was easier to obtain an accurate and self-revealing conversation which lead to a comprehensive understanding of the interviewees' perceptions and experiences of digital literacies in their academic and professional careers (Roulston, 2010). Interviewers obtain a certain stance when interviewing for qualitative research. One, semi-structured, 60-to-90-minute interview of each participant took place after analysis of the assignments these participants completed in coursework as part of their teacher preparation program. During the one-on-one interview, I assumed a romantic conception when interviewing the six interviewees (Alveson, 2003; Roulston, 2010). Alveson (2003) framed a romantic conception around the ideas of participants' beliefs, perspectives, opinions, and attitudes about topic X.

A romantic approach also gives the impression that the interviewer and interviewee had established a rapport before or during the interview. These former students, now teachers, and I had established a rapport in the teacher preparation program over a period of 1-2 years. The romantic researcher uses multiple sources of data collection in order to verify the interviewees statements. In order to do this, the interviews were supplemented with participants' former coursework in their teacher preparation program (i.e. my classes), as well as their Texas Teacher Evaluation and Support System (TTESS) from the administration at their school. Three participants were unable to provide TTESS information, however the other three provided the evaluation from their administration across their first year of teaching.

The social constructionist conception within the romantic approach focuses on how interview interpretations are arranged and socially constructed by interviewers and

interviewees (Roulston, 2010). In the study, I was focused on the participants' experiences, comparing the relationship personal and professional digital literacies in their teacher preparation program and now in their own classroom. I likewise administered Roulston's (2010) romantic conception during the interviews that allowed me to see the participants' authentic self from an already established rapport during their teacher preparation program. This rapport allowed me to make connections about their digital literacies by playing an active role in listening and questioning during the interview.

The following names were given as pseudonyms to each participant to ensure anonymity throughout the paper: (a) Amy, (b) Jana, (c) Kelly, (d) Kristi, (e) Brooke, and (f) Betsy. Because rapport and trust were established preceding the interview, it was easier for me to obtain an accurate and self-revealing conversation in order to fully understand their perceptions and experiences of with digital literacies throughout their academic careers (Roulston, 2010).

As indicated in Chapter II, Review of the Literature, there have been several studies conducted about digital literacies and digital tools in a K-12 setting. Findings of these studies provided readers of situations where certain teacher preparation programs did prepare their preservice teachers with using digital literacies and digital tools for their teaching and learning environment. Therefore, the need for teacher preparation programs to provide opportunities for preservice teachers to embed digital literacies and digital tools, not as a separate interaction but as a different platform or device, is important for their future classrooms.

"The Internet has become established as an essential and central channel of communication in the lives of adults and adolescents" (Wadmany, Zeichner, & Melamed, 2014, p. 19), fundamentally filling roles such as informational sources, means of learning, and involvement in society as a work instrument, as the means of social communication and entertainment. The purpose of this study involved preservice teachers' definition of their digital literacies (i.e., meaning making processes) in their teacher preparation program, both personally and academically and an understanding of how, as in-service teachers, they applied digital literacies to their current classroom curriculum as well as continued to use digital literacies outside of the classroom for personal and professional reasons. There are preservice teachers who use technology and digital devices for social media and communication purposes, although not necessarily for classwork in their education courses (Amicucci, 2014). Knowing what type of digital literacies are preferred by preservice teachers' according to their teaching and learning styles, and then being able to integrate these practices into lesson plans, will be the desired outcome of this research. The end goal being to effectively use digital literacies to assist them as classroom teachers.

The next segment are case descriptions of the six selected participants. These are case descriptions of the participants and not descriptions of the interview data. The interview data and findings will follow in Chapter VII. Table 9 provides a visual representation of detailed information on the participants, followed by a narrative of each participant.

Table 9

Participants' information

Participants	Grade Level and Subject	Interview location	Date and time	Length of interview	TTESS
Amy	6th Math	Her Classroom	April 29, 2018. 12:30 pm	32 minutes	N
Jana	6th Science	Starbucks	May 3, 2018. 4:00 pm	47 minutes	Y
Kelly	7th Math	Starbucks	May 3, 2018. 6:00 pm	36 minutes	Y
Kristi	7th Math	Her Classroom	May 6, 2018. 10:30 am	39 minutes	N
Brooke	7th ILA	Starbucks	May 6, 2018. 5:00pm	44 minutes	N
Betsy	6-7-8th Math	Starbucks	May 6, 2018. 7:00 pm	1 hour 2 minutes	Y

Note. This table is representative of participants' grade level and subject taught. As well as location, time, and length of interview. It also is representative of who turned in their TTESS, although that was not used in the findings because it did not yield any appreciable data.

Amy

My first participant to interview was the last individual who I contacted. She was not on my original list for several reasons. Amy had only been teaching ½ a year and was never enrolled in a face-to-face course I taught. However, she was near where I live, in East Texas. I was so excited to finally get my research interviews started. I double checked my two recording devices, then placed my Surface Pro and audio recording device with extra batteries in my bag and set off to her school. I walked to her classroom at the end of the school day, after I did an observation of one of my present preservice students at another nearby school. Amy was teaching in a Title I middle school where I

occasionally observe pre-service teachers. There was no issue with entering the school, because I already had a school badge. Although Amy was a first-year teacher, she only has been teaching since January, since she graduated in December; therefore, she had no TTESS observation to provide.

Amy is a small-framed, Hispanic female, approximately 22-25 years old, and at the interview she was wearing slacks and a comfy, over-sized shirt. She was not one of my first ten choices because from her coursework that I evaluated it did not appear that she was very confident in her creations of the coursework assignments or instructions and she did not participate as much in discussions in class as the initial ten students. When Amy was a student of mine in her teacher preparation program in 2018, I observed her teach three complete 75-minute lessons in her field placement for her teacher preparation program, at this same school where she was now a certified teacher. When I observed her in 2018, her first lesson she seemed nervous and anxious, and her second and third lesson showed marked improvement. After each lesson, I conduct a conference feedback and reflection meeting with my students.

During these conferences with Amy in 2018, she mentioned how nervous she was and that she knew she could do better, especially with her voice and pronunciations of the vocabulary. During the second and third lesson observed in her placement in my class in 2018, Amy used the Smartboard, gave guided notes on the overhead, and used grouping and manipulatives teaching simplifying expressions and angle relationships. Amy did come to my office several times for feedback reflection meetings when she was a pre-service teacher while she was in my class and explained how she was not very confident in just reading an assignment then diving right in. She mentioned being an English

Language Learner and that she felt that her words did not always form and come out correctly.

Amy also confided in me that growing up she had no one to help her with schoolwork at home, so she relied heavily on her teachers. She also stated what a shy person she was, and she was worried about classroom management, especially with middle level learners. We discussed some techniques to try during her field placement in 2018. She demonstrated mastery of staying in one position when she wanted the students' attention, then having students do a repetitive call-back she would say, "If you can hear me clap once." The students clapped. If she did not get the whole classes attentions, she repeated, "If you can hear me, clap twice!" Usually that did the trick.

During my conference with her in 2018, I guaranteed her then I would help her with anything she needed. I reiterated this to her again in the interview process in 2018. As a participant, Amy also could provide another perspective. Given the fact that she was hired in January, she only had half a year of teaching experience to date. Additionally, her own self-acknowledgement of being a second language learner provided a unique lens to the implementation of digital literacies pedagogy.

Before we began the interview on May 3, 2018, we first spoke informally for few minutes, mainly about family and life outside of school. The next step was that I gave Amy the Informed Consent and the Detailed Consent for being a participant in the study and while she was reading it, I set up my Surface Pro for audio recording and made sure the hand-held audio recorder was working. I did a testing on it to make sure it was recording in the right mode. Amy did not have any questions and signed the informed consent forms. I kept the signed copy and gave her a copy as well. When I made copies

of the interview questions, I decided to make two for each participant interview, one for me and one for them, if they chose to look at the questions after I read it. I am a visual learner and when teaching, I always had handouts or copies of notes in a Power Point or Google Slide that I shared with my students. I also employed multiple graphic organizers or visuals, instead of just straight lecture. Since these are former students, I thought they might like reading the questions after I first asked them. Amy stated she would like to look at the questions, after I read them to her. I began each interview by asking the participants to state their name, subject, and grade level.

As we started the interview, she asked what the topic was again, as she did not remember from the initial phone conversation. I told her digital literacies, which made her seem worried about the interview questions. I assured her, I would explain the questions and anything she did not feel comfortable with answering she could state she did not want to answer it. That seemed to give her more courage in proceeding with the interview questions. Additionally, I reminded her again just to answer what she wanted or remembered. Then she stated, “That is the problem, I do not know if I can remember that far back!” Then she laughed, and I did also, which lightened up everything.

The interview started at approximately 12:30 pm, (i.e., during her conference) Amy indicated she teaches sixth grade math at a Title I school where she did her Field II Placement and Student Teaching semesters, both in sixth-grade math. Although the teacher preparation program at Mid-South University does not like for students to stay in field placements and student teaching in the same school, they made an exception for her. I knew she had been at this school for those semesters and speculated she would add

another perspective of being an intern, then student teacher, and finally the teacher of record.

After the interview, I packed up my recording devices and again, thanked her for agreeing to do the interview. Walking out of that room, leaving the school, gave me so much of a thrill, I returned to my car and just cried! I have been on a long journey to get to this point. I knew I could do the interviews, I had been preparing for this since January 2014, when I first started back to school, and I knew that this had to be completed. However, the knowledge of doing the first one, gave me such a thrill and emotional feeling at the same time, I just cried and cried. I called my mom and dad, text my friend group, and drove home.

Jana

My second participant was a sixth-grade science teacher in the South-Eastern part of Texas. She was in my course as a face-to-fact student in the spring of 2017, and an intern that I observed in field placement in the fall 2017. I knew immediately, Jana would be one of my first potential participant calls. There are preservice teachers who stick out in your mind as "hard-workers" and students who are "with-it!" She was both! Jana responded to my initial phone call and asked if I could text her the dates and times, so she could look at her calendar. When she asked about texting, I realized I was only approved for phone contacts, consequently I submitted a modification of allowing texts to my participants to my study to the IRB for approval. It was approved.

Her location choice was a Starbucks, right down from her school. That was more convenient for her, so I agreed. As I drove the two hours to this location, I was getting more excited, this was my second interview! I was getting it done! Although on the way

down to her town, a thunderstorm hit, and it was not good driving weather. Luckily, I left in two hours early, and had plenty of time if I needed to pull over. It was threatening, dark, almost ominous. I thought to myself, “If I die going to this interview, I will be very upset!” I had gotten this far, and I was not going to let this keep me down, so I plodded on!

Arriving at Starbucks almost 1 and ½ hours early, I decided to go on in and find a secluded spot. Starbucks is noisy and people where everywhere. They had music playing, people calling out names for their orders, and the machines that made and mixed the coffee were rattling off every few minutes. Luckily, this location had a separated section where there was a large computer plug-in table and smaller tables in the back. I selected a small table with three chairs and worked on grades while I waited for Jana to arrive.

After an hour, I started going over my first interview I had completed that morning and looked at the specific interview questions. I made sure Jana’s interview question page and consent forms were ready and I checked, and double checked both recording devices. The table was located right under a speaker, so I made sure I could hear my voice without the interference of the music. Finally, 4:30 p.m. came and Jana walked into Starbucks. I met her in the front and asked if there was another place, she’d rather sit than the back. She said the back was fine, as it was more private.

Jana, a White female, about 22 years of age with a small frame and long brown hair, was dressed in a skirt and blue jean jacket with slide-on sandals. She was one of the participants who completed several of my courses in her teacher preparation program at Mid-South University. One course included her field placement and I observed her teach three complete 1 hour and 15-minute science lessons. Her first lesson was good, her

second lesson was even better, and her third lesson, she knocked it out of the park! Her mentor teacher praised her every time I went to observe her and specifically asked if there was a way, she could schedule her to be her student teaching. The teacher preparation program does not normally allow students to do field placements and student teaching in the same school, although there are some exceptions. Jana wanted to go back home anyway, so she did not stay. I chose to ask Jana to participate because I thought she could add a great perspective of teaching with digital literacies with what I observed from her coursework, as well as her professional applications in the field placement classroom. I was so glad she said yes!

As Jana was reading the consent forms, I checked again to make sure the two recording devices were set up correctly. I place one closer to her, so it would drown out the music above us. She signed the consent form and I provided her a copy. I asked if she would like a copy of the interview questions and she said yes, it would be helpful. Jana was completing her first year at a Title one school, as a sixth-grade science teacher.

At the closing of the interview, I thanked her again for agreeing to be a participant. I asked her if anything else related came to mind as we were going through the questions. She stated no. I reminded her I would transcribe the interview and send it to her personal address, which is where she chose to have it sent. She asked if I still wanted her TTESS and I said that I did and thanked her for bringing it. She provided one walk-through, one Instructional/Learning Environment Walkthrough, and one Observation - Entire Process. She was excited about her final observation TTESS, recalling an Escape Room activity, using real lockers and locker combinations at the

school. She said it was one of her favorite lessons, although shocked that students did not know how to do combinations on lockers.

The second time she did this same lesson, she reminded them the day before – right, left skip once, right – stating the students practiced for 10 minutes! The second go-round was so satisfying for them, they all got it this time and screamed, "YEAH!" I mentioned the struggle my daughter had with locker combinations and she mentioned how these students have a 'I give up' attitude, a lack of integrity. "I try and encourage them and say, 'Do not give up, try harder! I try and give them motivations!' I agreed with her about that motivation, for all students at all levels and ages. I told her thanks a final time, and she walked out the door. I packed up my recording devices, feeling very pleased with this interview.

Kelly

Kelly was also former preservice student who was strong in her content, math, and strong with technology applications and digital literacies, especially in a content that traditionally does not use a lot of traditional reading and writing in the curriculum (i.e., math). I was so happy to see her; she had gotten married since her time in the teacher preparation program, so we talked about that first. She asked about my schooling and how the dissertation was going. I assured her it was going well, and that I was so happy to have her as a participant.

Kelly is a White female, around 22-23 years of age. She was blonde headed with a medium build and knack for discussions and words. Every time she spoke in class as a preservice teacher, I was impressed by her vocabulary and use of 'teacher terms,' as I call them. She discussed terms such as implementation and inclusion, in the math setting,

before that was even brought up in our class. Differentiation was concept she wanted to research, especially for her future students in mathematics, that it would be important to their success. I was glad Kelly chose to be a participant.

After Kelly chose her date, time, and location of her interview, I made sure and coordinated Jana's interview within the same day as Kelly's. They both live in the South-eastern part of Texas and the timing and dates were perfectly aligned for me to travel to their interviews on the same day, after the first interview with Amy that morning. Luckily the rain had completely subsided, so there was no more threat of thunderstorms on my last leg of this "interview" journey. I finished with Jana early, and texted her I was headed her way, which we had already agreed I would. Her home was right down from the Starbucks, so she came a little early too. I arrived at our location, again Starbucks, at the same time as Kelly. I recognized her right away. She chose the location of our seats, which was right be the door, under a speaker. Thankfully, this Starbucks was not as crowded. We sat at a long table, sitting side-by-side, facing the outside parking lot. Our interview started at 6:35.

While she was reading her consent forms, I once again set up the recording devices and made sure to put one right by her, since the speaker was above us. She signed the consent forms and we got started. Kelly her new name – added the new last name - and told me she taught seventh grade math at a Title One school, Midway Junior High (pseudonym). She was teaching two Pre-AP (Advanced Placement) math classes and two regular, general education math classes. Her Pre-AP math classes did not involve any algebra, although she did teach ½ of the eighth-grade curriculum because they'll be in Algebra I in the eighth grade, since they will miss all of eighth-grade regular TEKS

(Texas Essential Knowledge Standards). The Pre-Ap math class was a faster-paced course, where they take in more information than the general education math course.

I provided Kelly a copy of the interview questions, asked her if she wanted to read them along with me, and she said she did. Although I did not want to change the way I asked the questions, I just mentioned if I heard an answer that would fit in another question, I would let her know. Kelly was in shorts and a t-shirt and said she was very comfortable with whatever I had to ask her. Friday night, at the end of the semester, I was glad she was there to participate. I know how tired middle school teachers are, teachers in general, on a Friday! The interview lasted 36 minutes and I thanked her again, wishing her well in her school and new marriage adventure. I shut off the recording devices, packed up my things, and walked to my car.

Interlude: Reflections

Three down and three to go! I was very pleased with the progress of the interviewing; however, knowing my time had been altered and losing almost two months meant I needed to keep moving along. Out of everything that I have done so far with this research study, the interviewing has been my favorite. I was aware how I addressed the participants, since I already knew them, but I had to remember to stick to the interview questions and not ask something unrelated during the interview. I recognized my own interview ‘voice’ and that I say ‘OK’ a lot, which I was not aware of, especially in conversation. There are some other alterations that I decided that I might make to future interviews, giving participants choice of interviewing via the Web or face-to-face. However, in my reflections, my chair and I discussed how observing the participants would be a better choice, since I already knew them.

I had a weekend to regroup and travel again, this time to the North-central part of Texas, to complete my last three interviews, all within 45 minutes of each other. As humorous side note, all the participants had classes together at one point in their teacher preparation program, although I do not know if they stayed in touch after the class on social media. I was wondering if they talked to each other often and if so, asked if I contacted them for participation? Again, these participants are my former students, so I was pleased to see them. The last three interviews occurred all in one day.

Kristi

Kristi was another English Language Learner formerly in my classes for her teacher preparation program. She was in a face-to-face literacy class in the fall of 2017 and field placement internship spring 2018. Kristi was a small-framed, Hispanic female, about 23 years old. When we decided her interview date and time, she immediately mentioned she had a 1 ½ hour block in the morning from 10-11:30 a.m. and she would like to have the interview at her school. I would not be observing any of her classes or students, so I said that was fine and we scheduled it right away. As I arrived at Baker Middle school, there was no parking in the area in front of the school. She mentioned in our phone conversation that there was construction going on at her school, and I assumed a lot of the parking lot was under that constructions zone. I was about 30 minutes early, so I drove around the school, although was not wanting to stray too far. I found a spot on the side street just down from the school, parked, gathered my bag, and walked to the school.

The school reminded me of my first year as a teacher. The setting was similar to mine, a North – central ISD in Texas, large spread-out, with portables for reconstruction

on the existing school. It brought a lot of memories of portables, reconstruction, and 22-year-old anxieties of my first year of teaching. She assured me that the office staff would welcome me upon arrival, and they did. As I buzzed the button to gain entry, an office personnel staff waved me over in the right direction of the main office. I provided my driver's license and the office worker provided me a sticker badge to wear. A student worker showed me to Kristi's classroom, on the second floor above the office. I waited outside her classroom door while a few students finished up with tutorials.

The classroom was large with a big-screen TV at the front. The desks were pushed together in groups of two and there were tables along the front of the room. In the back was a closet that included a cabinet that looked like a large computer storage unit. I saw a Chromebook cabinet in the corner of the room, and she had a computer station at her own desk, which was located in the front corner across the room from the door. The walls were covered in math posters and student-created math activities. Although this was her tutorial class, she moved around the room discussing activities the students were completing. She had music playing in the background, which she communicated to me later, was for her; she did not like the room completely silent.

After the students left, I set up the two recording devices on the desks where we were sitting. I realized I did not bring an extra copy of the interview questions with me and asked if she wanted one. She said she could go make a copy in the next room, so she did and came back to start the interview. As she was reading through the consent form, I tested the recording devices to make sure they were recording correctly. She signed the consent form and I gave her a copy.

Kristi was finishing her first year as a teacher, although she did not start at this school in October. She mentioned she had originally started as a high school teacher, but this school needed her, and she moved within the district. She teaches sixth grade math lab and seventh grade honors math. She has class sizes that range from 11 to 32. Her math lab had 11, which is who was there when I arrived, and her largest class was an honors class that included 32. We started the interview at 10:35. As I began asking the first question, then the intercom speaker came on with announcements. She apologized and said this happens at this time every day. I assured her it was fine, and we listened for about five minutes to the announcements.

After the 36-minute interview, I thanked her for the good advice and appreciated her meeting me to be a part of the study. I mentioned I would send her the transcript for member checking in the mail and made sure I had her correct address. She mentioned she was going to teach abroad after the summer, and I was excited for her…possibly another aspect for future research? I packed up my recording devices, made sure I had her consent forms, and placed my interview notes in her folder. I thanked her again a left the school.

Brooke

Brooke was a White female, approximately 22-24 years of age, with long brown hair and a small frame. She completed two of my courses in her teacher preparation program; the literacy course was in the spring of 2018 and the field placement internship, fall 2018. I chose Brooke first, as one of my potential participants. I saw her teach in the classroom, seventh grade ELAR (English Language Arts and Reading) and remembered how I thought then – ‘she would be a great participant to interview.’ Her teaching lessons

in our face-to-face literacy course included technology, digital literacies, and differentiated learning for all levels of learners. In her field placement, I observed her teach three 75-minute lessons, which included student-centered activities, notetaking with foldables, and videos to introduce and close the lesson. Brooke's teaching style was very similar to her mentor teachers in the field placement and could take over the class lessons on a regular basis, two days a week, which is not usually allowed in an internship.

Brooke decided to meet at a Starbucks close to her school in Northern-central Texas, since the meeting was at 5:00 pm. She provided the location in our second phone conversation and texted me around 4:45 p.m. to let me know she was leaving school. This was my second interview of the day (the first Starbucks!)and I had one more interview after Brooke's. The adrenaline kept me going, although I was extremely tired. I was so excited to get these interviews completed and get started analyzing the data. I arrived at Starbucks at 4:00 pm and tried to find a secluded place to sit. There were a few tables in the front and one table located by the machines that made coffee, which seemed very loud. I chose the table closest to the machine, although around 4:45 pm, it started to get crowded. I was going to move, however, I stayed at the table closest to the machines, because there was less traffic and no other tables around. Brooke walked in right at 5:00 pm and she smiled as I greeted her at the table. I asked her if there was somewhere else, she would like to sit and she said that table was fine.

After she read the consent forms and signed them, she too asked for a copy of the interview questions. My audio tape recorders were ready, and we started the interview around 5:05. Brooke introduced herself as a seventh grade ILA (Integrated Language Arts) teacher at a Title one school in Northern-central Texas. Just to be clear, I asked her

to clarify what ILA stood for and she identified it as Integrated Language Arts, which included teaching elements of literacy using common experiences of with pieces of literature - reading, writing, speaking, listening, and responding.

As the interview concluded, I told her how much I appreciated her help and her discussions about digital literacies in her own classroom, as well as how much the district embraced it. I assured her that many districts are not all on the same page, she said she knew that and knew that she was lucky. Overall, Brooke thought she mentioned good ideas, however, felt she did not think she was much help. She exasperated the fact of how tired she was, all of the time and that teaching is hard. I assured her whatever she said was right, because it was her thoughts and ideas. Furthermore, I offered thoughts at how to stay organized and sometimes, just let the grades wait. Brooke loved her mentor at the school and praised her ILA department, who were very supportive of everything. There were ten middle schools in Brooke's district, her school being only four or five years old. For the most part, it is a very large district, having over one thousand new hires this year, Brooke being one of them.

When Brooke was a student in the teacher preparation program in college, she was in the service industry as a hostess, waiter, and bartender. Brooke compared the two jobs, quoting, "teaching was harder that all the service industry jobs rolled into one!" She was humbled and honored to call her students 'her babies' and she would not trade places with anyone in the world. She felt that her calling was teaching middle level learners and felt very lucky and blessed to be a part of such a great district and school team. I thanked her again and wished her well in her teaching endeavors. Brooke's interview lasted 44

minutes and we wrapped it up with a good luck to us both! She left and I packed up my things to go to my sixth and final interview.

Betsy

Betsy's interview was at 7 pm, at a Starbucks near her home[3]. We arrived at the same time and decided to sit outside because it was quieter and there were not as many people. While she went inside to get a drink, I set up the two recording devices and got out the consent forms. Betsy is a White female who just finished her first-year teaching in Northern-central Texas. She is tall and had her long brown hairs in a ponytail. Betsy was dressed in leggings, an oversized t-shirt, and tennis shoes. I remembered Betsy as being well-spoken in class and knowledgeable about her content area, as well as on the cusp of middle level facts and findings. Betsy also wanted a copy of the interview question, after I read each one, so I provided her a copy. She signed the consent forms and we got started around 7:10.

She introduced herself and mentioned she taught sixth, seventh, and eighth graders. At the time of the interview, she was teaching blocks of six-seventh grade accelerated math (i.e., sixth and seventh grade curriculum in one year) course, and pre-algebra courses, which has a mixture of seventh and eighth graders. She went on to explain more about accelerated math, that it was in its second year with six sections that were double-blocked classes. Double blocked classes are those that have double the work in the same amount of time and meets every day. For instance, accelerated math sixth graders were learning sixth and seventh grade math curriculum in one year. Betsy knew

[3]On a side note, I have not gone to Starbucks since, except through the drive-thru for my daughter😊

these students in the accelerated courses were working at double the pace and felt that some students should not be in this course.

> It is a face-paced course that many students in the sixth grade are not mature enough for, therefore, we have to tell them they are not going to cut it. You are brilliant, you're smart, but we move at too fast of a pace for you. You need the extra practice and all our sixth-grade courses are double-blocked, so they can get those fluency aspects of math.

Betsy enjoyed teaching the double-blocked accelerated system and visualizes the benefits for some students, that can handle it. She gave an example of the accelerated blocking curriculum, reviewing multiplication facts with fractions and decimals, which assists the students' success in seventh and eighth grade years.

Betsy considered herself an older Millennial, who has become desensitized to the importance of digital citizenship. She must be conscientious of making that adult step in acknowledging the importance of instilling digital citizenship into her learners, not just something she heard from her parents. Putting something on social media cannot just affect you now, Betsy recognized it could affect her 20 years down the road. In her teacher preparation program, she felt prepared in setting those boundaries early, to make her social media accounts private from the learners. When she entered her first classroom, those boundaries had already been established. Acknowledging the importance of planning for those next steps regarding technology in your own classroom was a high priority for Betsy; the importance of being prepared for all students to have phones in the school.

At the close of the interview, my last and longest (i.e., one hour and two minutes) I asked about her year, Betsy said she was going great. Although she did not know what she was teaching until the week before school started. Over the summer, when someone asked what she was teaching, she only had one answer, "Math!" which was difficult for her. Betsy told me how much fun it has been. This was the first year the eighth-grade math or pre-algebra groups were large enough to warrant a team of teachers. At the time of the interview, she was on a team with one other first-year teacher and a veteran teacher, who had been teaching since Betsy was alive, 21 years. She did not mention her age at first, until the veteran teacher mentioned it. Betsy has enjoyed growing Pre-Algebra with a team and developing projects that other teachers did not have time to do. She has enjoyed getting to be creative and learning new things along the way.

Summary

In this chapter, I have described a narrative of the interviews with my former preservice teachers, who have now completed their first-year teaching. Each introduction includes information on the participant who was being interviewed, the subject and grade level that they taught, where the interview took place, the date on which the interview took place, how long the interview was, and a short description of the interview process. Chapter VII provides the interviews and cross-case analysis of my former preservice teachers, who are now teaching in their own classroom. I analyzed the data using Provalis Research – QDA miner and Word Stat. Additionally, I revisited the research questions, that disclose any responses obtained from the study's findings.

CHAPTER VII

Analysis Methods

Chapter Overview

Included in this chapter are the methods of analysis used for the interview data. The analysis provides a detailed process of the findings generated by using the coding methods of keywords-in-context and word count, steered by QDA Miner and Word Stat. These coding methods were then applied through thematic analysis (Braun & Clarke, 2006). Following the thematic analysis, I provided a cross-case analysis of all six participants' interview responses. Lastly, I provided the findings to the following research questions:

1. How do my former preservice teachers apply digital literacies in their classrooms and teaching after their teacher preparation program?
2. How do my former preservice teachers apply digital literacies in their personal lives after their teacher preparation program?
3. What intersections and disjunctures occur between how my former preservice teachers personally and professionally apply digital literacies?

Uncovering Emergent Themes in the Interview

In order to identify and analyse salient themes and patterns (Strauss & Corbin, 1990), I analysed the data using three different analyses. To increase rigor and trustworthiness in the findings (Leech & Onwuegbuzie, 2007), and to triangulate the data, I employed these three methods of analysis to the participants' interviews: thematic analysis (Braun & Clarke, 2006), keywords-in-context (Bernard & Ryan, 2010; Leech & Onwuegbuzie, 2007), and word count (Miles & Huberman, 1994). The keyword retrieval

feature in QDA Miner allowed me to search the text segments of the interviews, which then led me to develop codes that I could then submit within keyword-in-context process of analysis. The coding by variable function in QDA Miner allowed me to explore the relationship between the codes and assigned documents, which I then applied with word count. The results of the Word Count method were displayed in Figures 13-15, which I illustrated by charts and/or graphs. Figures 16 – 19 provide results of Word Count in codes representing: a) old/new literacies; b) online interactions; c) online resources; and d) technology tools. Results key-words-in-context are displayed in Figures and Tables 3-6. Following word count analysis and keywords-in-context, I applied thematic analysis to participants' interviews. (Add some word count and keywords)

Word Count

As I applied word count to my coursework data, I also applied word count to the interview responses of my participants. As I stated already, Leech and Onwuegbuzie (2007) suggested counting words to allow the researcher to understand the perspectives of their participants in qualitative research. I analyzed words and found codes and coded segments, leading to categories of the analysis, and then observed developing themes within the research.

Word Count Results

Figures 13, 14, and 15 were derived from interview participants' responses. The codes developed were as follow: a) old-new literacies, b) online interactions, c) online resources, d) technology tools, e) additional needs, f) face-to-face interactions, and g) struggles. These codes emerged from word count and represented inservice teachers' knowledge of digital literacies in their teacher preparation program, personal knowledge

and application of digital literacies, and professional application in their present classroom. These figures represented the six selected participants' responses to assignments within their teacher preparation programs and personal and professional applications, all analyzed by word count. Results offered an effective display of how participants' answers varied relating to digital literacies' practices in their teacher preparation programs, personal and professional lives. All participants connected their personal doings with their professional activities, observing that they research and get online for school, students, and classroom happenings.

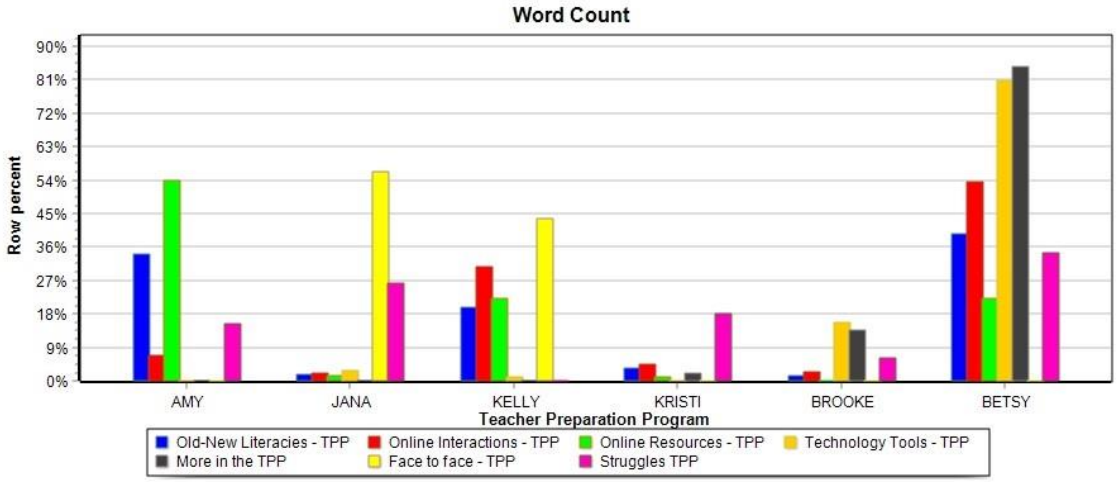


Figure 13. Teacher Preparation Program Word Count Analysis. Accuracy of participants' digital literacy applications in their teacher preparation program. The terms in the legen represent their definitions and/or qualifications of digital literacies they applied in their teacher preparation program.

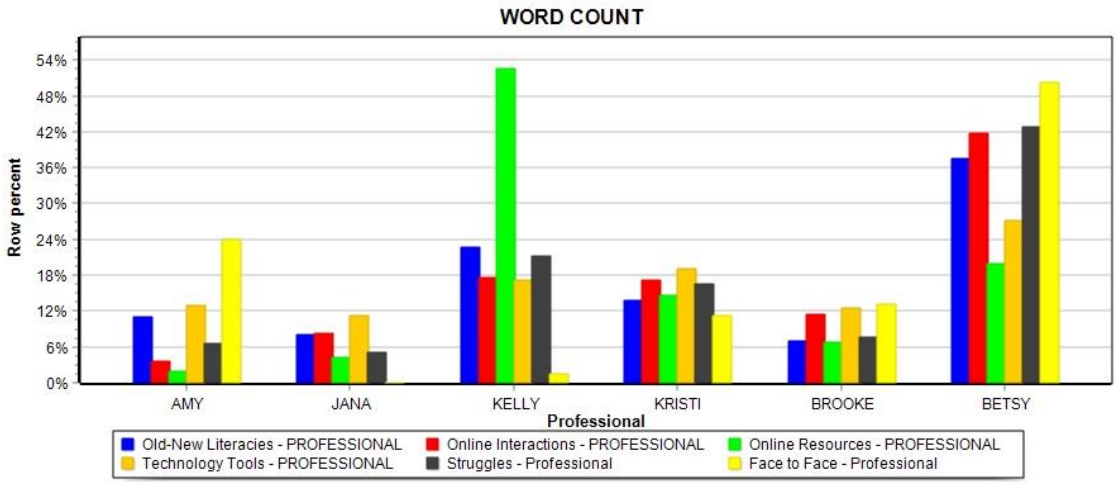


Figure 14. Professional Word Count Analysis. Accuraty of participants' digital literacy profession applications in their own classrooms. The terms in the legend represent their definitions and/or qualifications of digital literacies they applies in their classrooms as first year teachers.

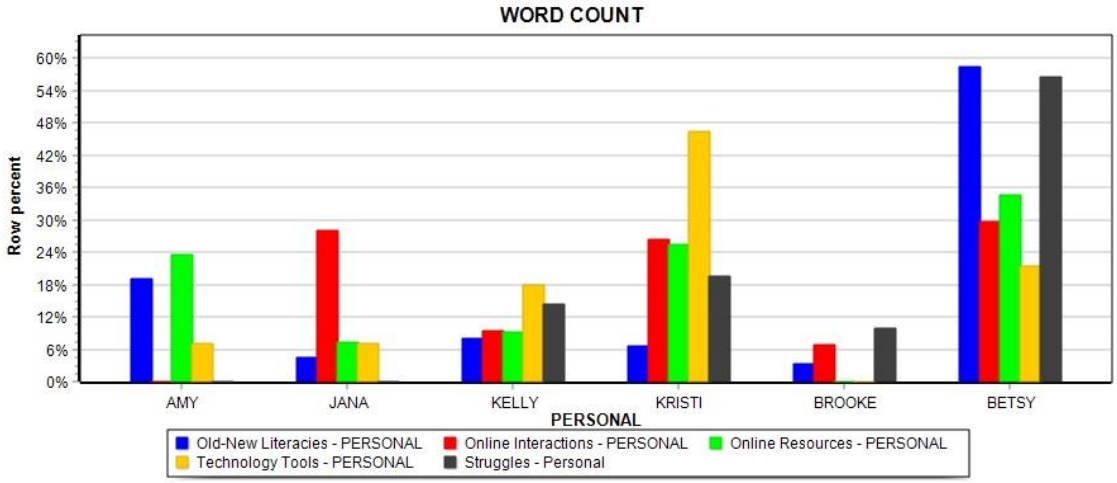


Figure 15. Personal Word Count Analysis. Participants' personal accounts of their digital literacies, technology tools, online interactions and resources, and personal struggles.

In Figures 16 - 19, word count results provided each participants' recognition of their digital literacies regarding a) old/new literacies, b) online interactions, c) online resources, and d) technology tools, in their teacher preparation program, personally, and professionally.

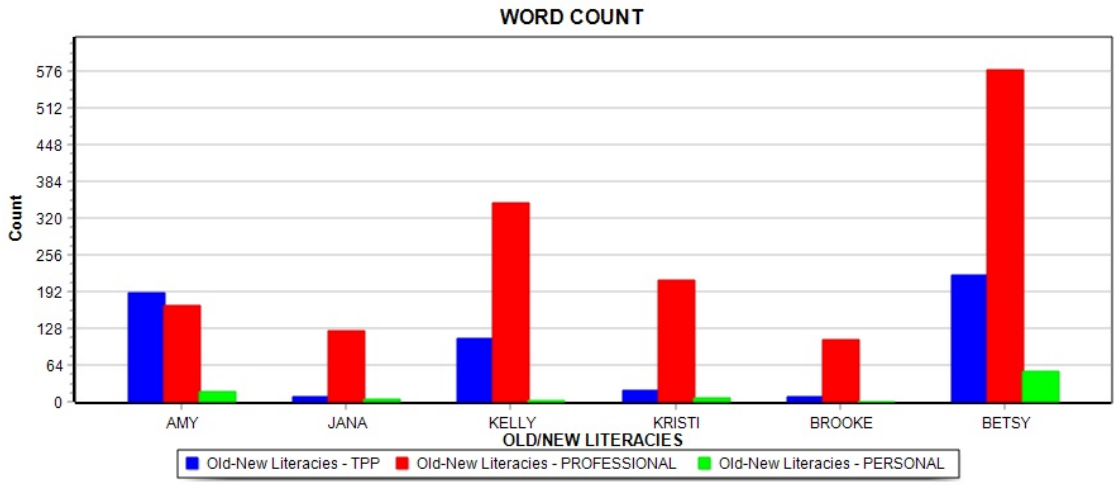


Figure 16. Old/new Literacies Word Count Analysis. Another interpretation of participants' old and new literacy in their teacher preparation program, personal applications, and professional application in their own classroom. The terms in the legend represent old-new literacies in all three areas that were studied.

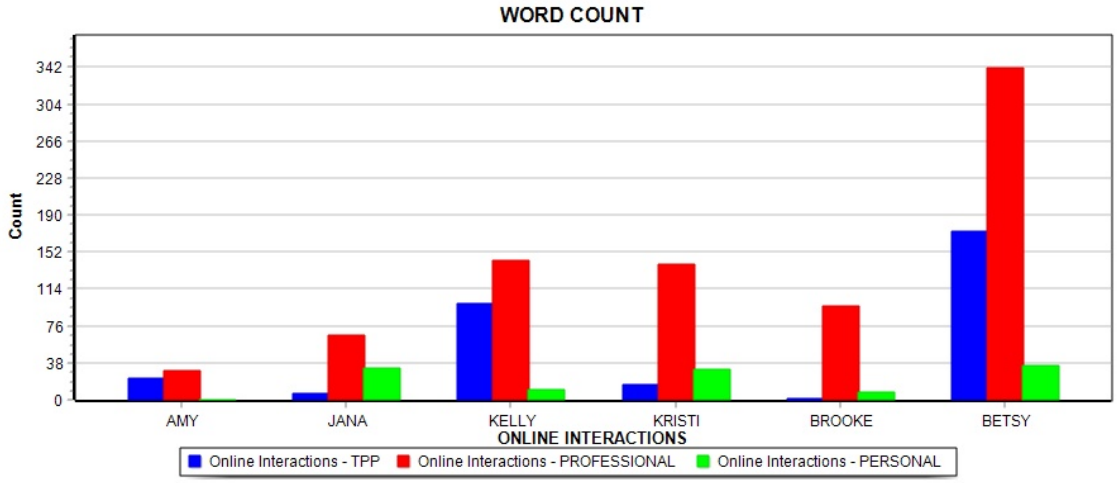


Figure 17. Online Interaction Word Count Analysis. Another interpretation of participants' online interaction in their teacher preparation program, personal applications, and professional application in their own classroom. The terms in the legend represent online interactions in all three areas that were studied.

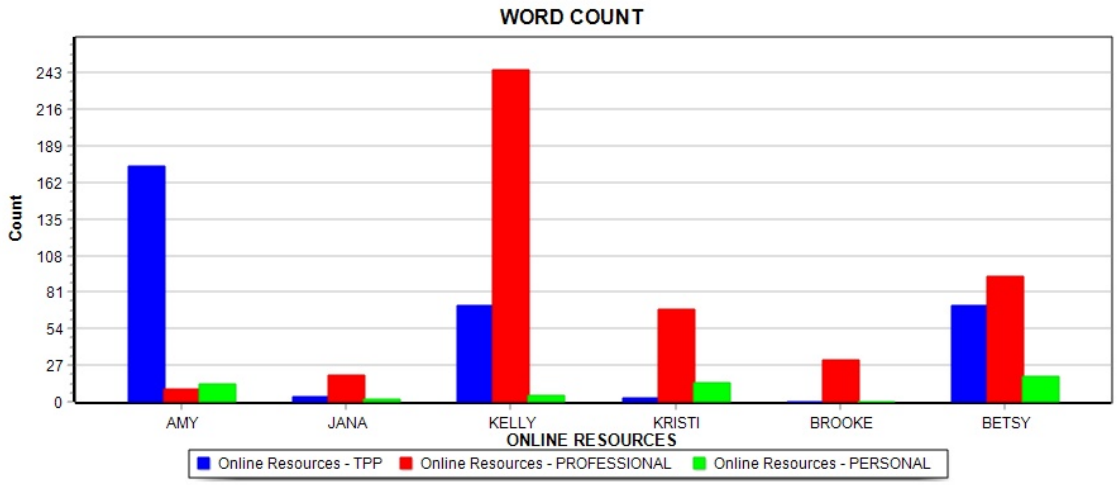


Figure 18. Online Resource Word Stat Analysis. Participants' interpretations of online resources used in their teacher preparation program, personal applications, and professional application in their own classroom. The terms in the legend represent online resources in all three areas that were studied.

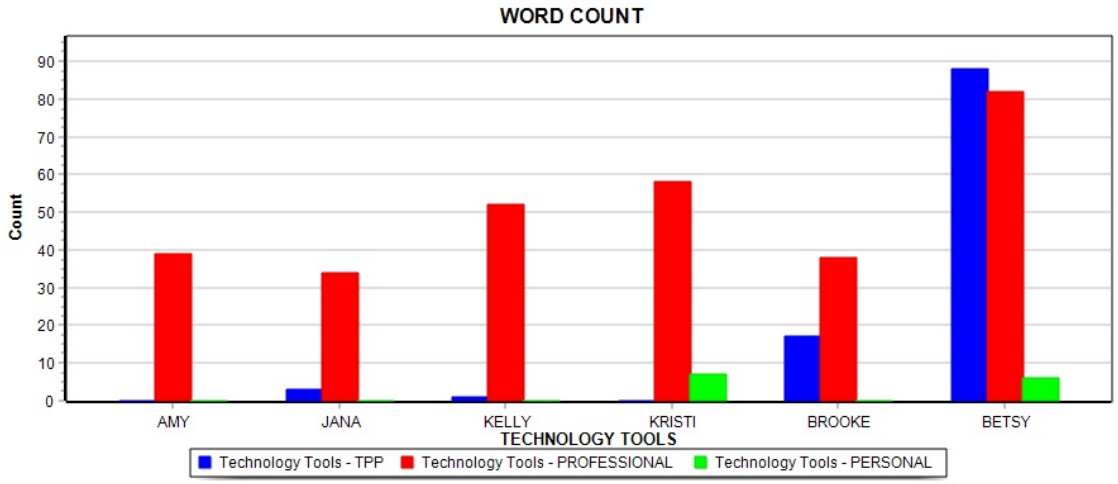


Figure 19. Technology Tools Word Stat Analysis. Another explanation of participants' technology tools in their teacher preparation program, personal applications, and professional application in their own classroom. The terms in the legend represent technology tools applied in all three areas studied in this research.

Keywords-in-Context

Keywords-in-context (KWIC, Fielding & Lee, 1998) was applied to the coded data using QDA Miner Word Stat. Keywords-in-context was the data analysis method that I used to compare, contrast, and explore words (i.e., keywords) used by participants,

and to investigate the phrases and sentences surrounding them. To use this method, I read through the coded data resulting from keyword retrieval and coding by variable. I identified keywords that were used frequently, identifying the terms surrounding each keyword relating to my research topic. Keywords were chosen *a posteriori* throughout the data set. By using this method, I determined the most referred to codes and entered the data using the "user defined" feature in QDA Word Stat.

Keywords-in-Context Interview Results

I read through the coded data resulting from keyword retrieval and coding by variable. The following key words were identified keywords and used frequently of the categories regarding professional and personal digital literacies, and teacher preparation programs. These themes developed: (a) online resources; (b) online interactions; (c) literacy; and (d) technology tools. Figure 20 is an example of these categories.

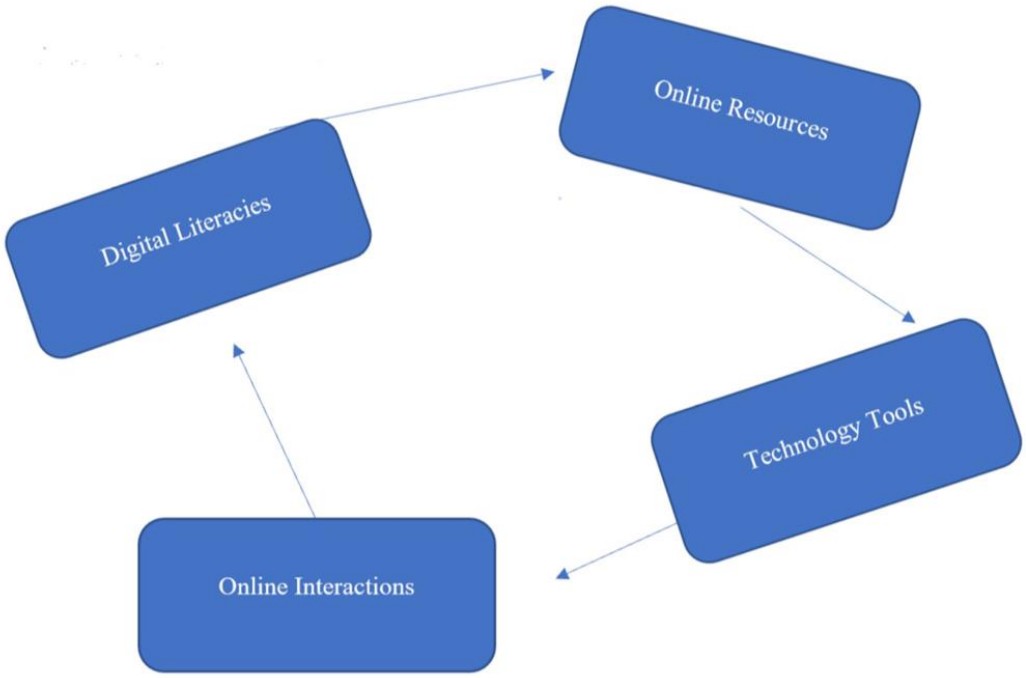


Figure 20. Participants' flow-chart following Key-Words-In-Content.

Tables 10 - 13 provide an example of each participants' KWIC analysis and codes that occurred as a result of this analysis. Online resources, online interactions, digital literacies, and technology tools were the themes that emerged from KWIC analysis. Figures 21-24 are detailed descriptions of the participants' interview topics regarding these themes. Topics were then recorded and displayed in the figures below each table. These topics developed into themes that were applied to Thematic Analysis (i.e., the final analysis), completing data triangulation. Table 10 displays participants suggested online resources for their future students and classroom interactions.

Table 10

Key-Words-In-Context: Table for Online Resources.

Participant	Sentence/Fragments	Themes
Jana	I remember from my coursework in my teacher preparation program, learning about an online resource simulation.	Simulations
Kristi	We use online textbooks as resources - *Springboard.*	Reading online
Brooke	Specific to ELA we use News ELA, online quizzes and assignments that tie into TEKS.	Interactive quizzes and reading
Amy	I remember using an online resource from another teacher, ST. Louis Federal.org, for a budget project.	Math budget project
Kelly	I use online resources such as Peardeck, which our district purchased. It enhances Power Point. I also use online websites and an iPad cart.	Power point enhancement, website
Betsy	A lot of the time we use our online resource UBD (understanding by design).	District designed activities

Note: TEKS stands for Texas Education of Knowledge and Skills are the standards for teachers to align their curriculum. ELA is English Language Arts.

Online resource coding resulted in these codes: reading online, interactive quizzes, power-point enhancement, interactive lessons, projects, websites, and budgeting. Figure 21 displays a visual representation of these codes of participants.

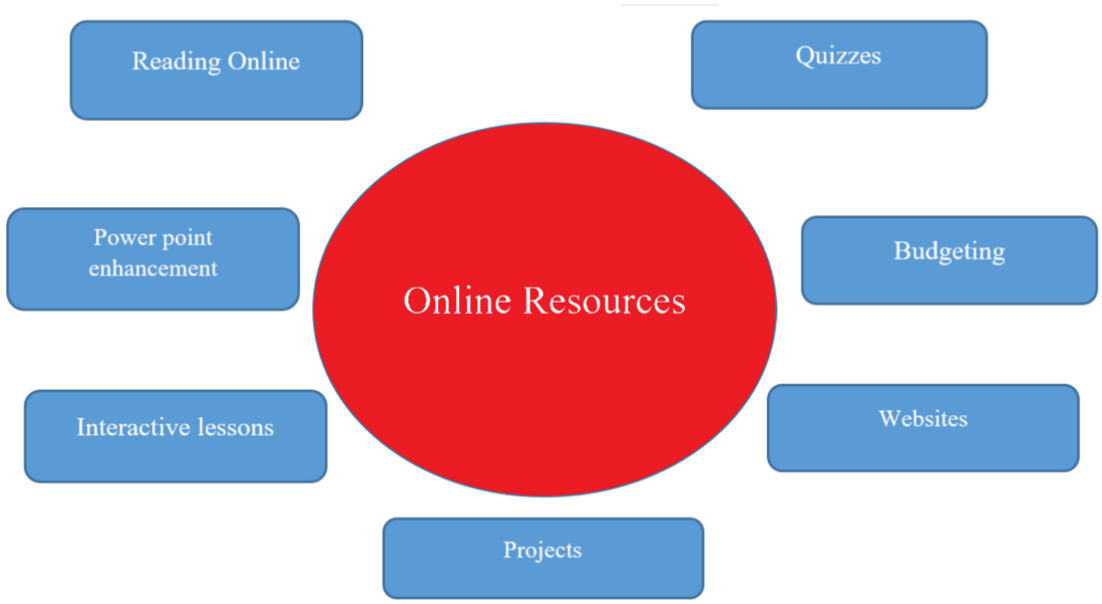


Figure 21. Themes applied with thematic analysis. These topics derived from the participants' interviews and developed into themes to drive the final analysis.

A demonstration of the codes used to inform the theme of online interactions for inservice teachers' classrooms and student interactions are found in Table 11.

Table 11

Key-Words-In-Context: Table for Online Interactions

Participant	Sentence/Fragments	Themes
Jana	Students can learn something online; the interacting moments would create better experiences for the student.	Student interactions
Kristi	I see the most online integration of digital literacies in me giving instruction to the students.	Teacher, student interactions
Brooke	For our online resources, we integrate Twitter and Remind 101. Teachers use Twitter, the students and parents use Remind. Kids use Spotify and Netflix to interact.	Teacher, student, parent, kids, Spotify, Netflix
Amy	I use online videos for student interactions in my classes.	Student interaction
Kelly	Students interacted online with their Dream Vacation Plan to learn about budget. They used websites to book their hotel, flight, and food.	Student interaction
Betsy	Google Apps are top online interactions for our learners. Also, Schoology for reminders of tests and a 'digital update.' I get email interactions from our learners who need help with homework, which is frustrating so late at night.	Teacher, student, parent, emails

Note: Online interactions of participants and their students.

Figure 22 depicts online interactions of the codes that emerged from the interviews from inservice teachers (i.e., my participants). These codes were: teachers, Netflix, parents, Spotify, students/kids, emails, Schoology, learners, and Google Apps.

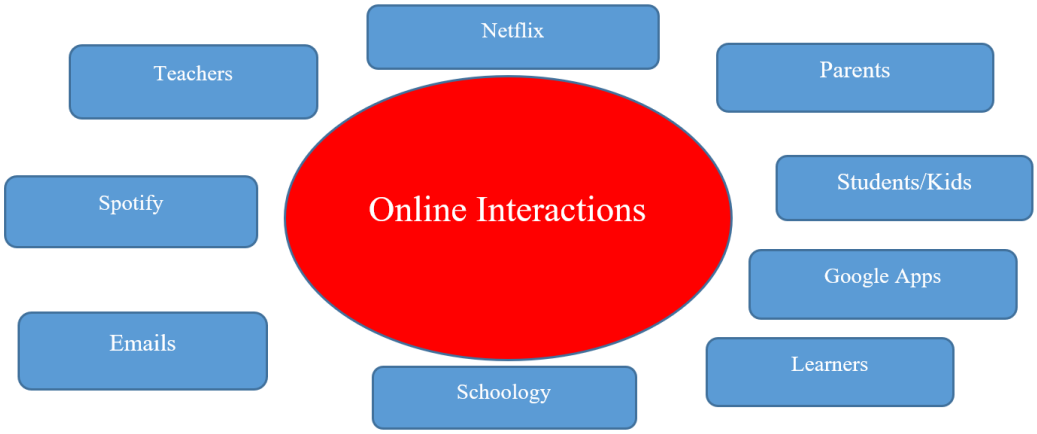


Figure 22. Themes of online interactions of participants' in their classroom activities. Codes that informed the theme of "digital literacies" implementation in their classrooms and lessons are found in Table 12.

Table 12

Key-Words-In-Context: Table for Digital Literacies

Participant	Sentence/Fragments	Themes
Jana	We have these cool digital literacy motion probes. They connect to computers and stuff.	Connections
Brooke	All of our reviews are usually digital, Kahoots or I'll create a Gimkit. All of our lesson plans are digital.	Reviews, Create, Lesson Planning
Amy	I see the most use of digital literacies in me giving instruction. Of course, the students use DL every day – whether its students sharing ideas or telling me how something (i.e., technology) works. We use it a lot with vocabulary.	Creating, Instruction, Sharing, Vocabulary
Kelly	My first year, I do not feel as though I have used as much digital literacies in my professional world, more of personal creations. I did not feel I had the grasp, which is a goal of mine for year two.	Personal, Creating
Betsy	They use their IPads for homework, it's all digital. They have access, then have digital turn it in. I feel like I have a stronger connection to digital literacies in the professional world (i.e., education).	Homework, Professional

Note: Digital literacies of participants and their students.

A visual of digital literacies derived from the KWIC analysis is provided in Figure 23, which resulted in: personal and professional use; sharing lessons and activities; homework and digital turn-it-in; students creating with old/new literacies; and online quizzes.

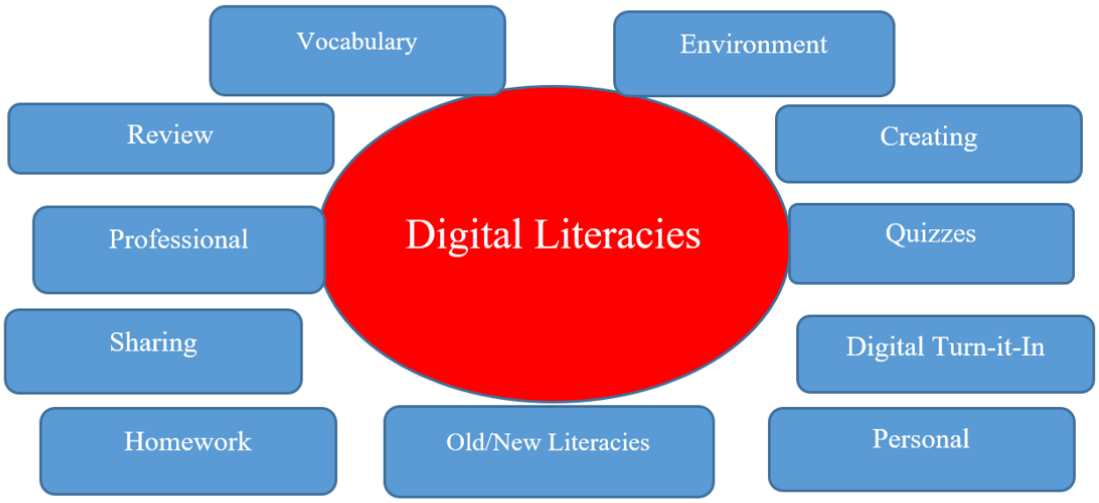


Figure 23. Digital literacies of participants and students in their classroom instruction and activities.

Participants' technology tool interactions within their classroom and students' engagement are provided in Table 13. These interactions ascertained ideas of students using tools for teacher-made quizzes, lessons, and time-saving activities.

Table 13

Key-Words-In-Context: Table for Technology Tools

Participant	Sentence/Fragments	Themes
Jana	This is not technically a tool, although students use motion probes connected to computers to move forwards and backwards. They also spell letters.	Motion Probe
Kristi	Regarding personal technology use, I don't even use a computer anymore. I use Chromebooks or social media for lesson plans a stuff.	Chromebooks
Brooke	We have technology tools such as Chromebooks, iPads, old-school laptops, and iPods.	iPads, Old-school laptops, iPods
Amy	For technology they use the TI-Nspires. I do not know how to use those new calculators, but we did have an hour training and I'm learning with the students.	TI-Nspire calculator
Kelly	I actually used technology and booked the iPad cart for their budget project.	iPad Cart
Betsy	We can screen record on the iPads. I'll respond with a video to show how they would solve a problem. This technology saves a lot of time.	iPad Screen Shot

Note: Participants' technology tools used in their classrooms as first year teachers.

Figure 24 portrays the ensuing tools as those applied to the classroom activities and interactions of teachers and students. These tools included: reading, interactive quizzes, iPods, iPad, Chromebooks, computer carts, old/new literacies, sharing, homework, and personal use.

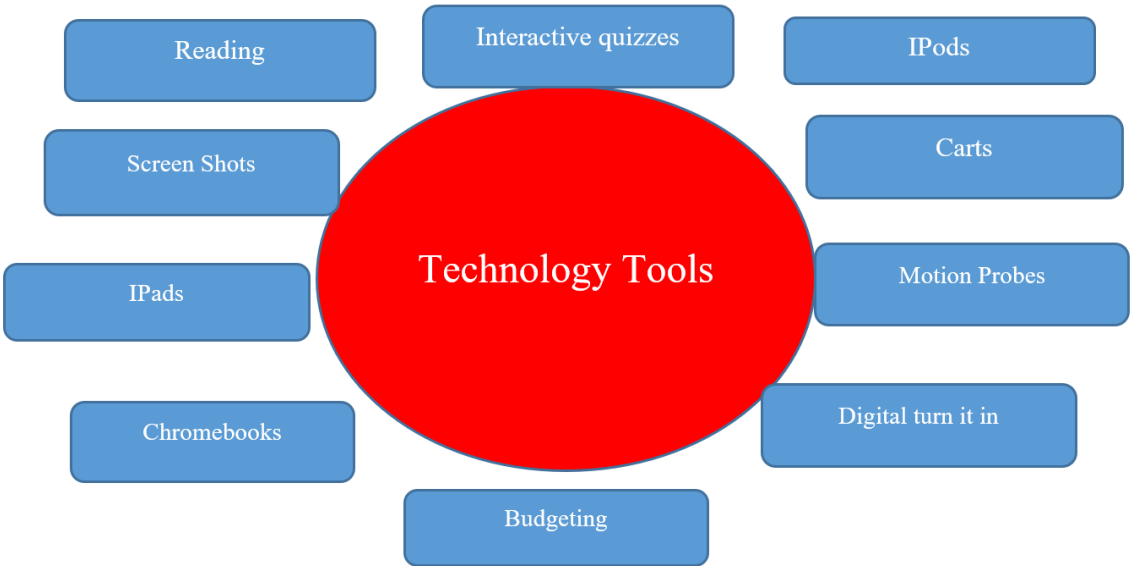


Figure 24. Themes, Technology Tools

From the results of appling keywords-in-context, the following codes informed the themes: a) Theme: Online Resources – simulations, reading online, interacive quizzes, bugeting, PowerPoint enhancement, and designed district activities; b) Theme: Online Interactions – students, teachers, parents, kids, coaches, learners, emails, Spotify, Netflix, Google Apps, and Schoology; c) Theme: Digital Literacies - create, review, personal, professiona, old/new, share, vocabulary, homework, and turn it in; d) Theme: Technology Tools – motion probes, Chromebooks, iPads, laptops, iPods, TI -Nspire calculators, technology carts, and screen shots.

Word count was then applied using the previous codes with these accompaniments: a) additional needs, b) face-to-face interactions, and c) struggles. Following word count was the final triangulation of the data, thematic anlysis. This anlaysis potrays the topics that materialized into sub-themes from word count and keywords-in-context.

Thematic Analysis

Thematic analysis was characterized by Boyatzis (1998) as an across method's tool and Braun and Clarke (2006) argued thematic analysis "should be considered a method in its own right" (p. 4). Braun and Clarke (2006) set out to provide research of thematic analysis for researchers and teachers of psychology. They stated thematic analysis is a qualitative method of identifying and reporting patterns (i.e., themes) of selected data. Thematic analysis involves six phases of data analysis: a) familiarizing yourself with the data, b) generalizing initial codes, c) searching for themes, d) reviewing themes, e) defining and naming themes, and f) producing the report.

Boyatzis (1992) also characterized coding as an iterative process involving the researcher adjusting the analysis as ideas emerge, reflecting the data outcome. "A good code is one that captures the qualitative richness of the phenomenon; a good code may emerge from one or more original ideas" (1998, p. X). I applied the identified themes throughout the analysis, interpretation, and arrangement of my research. I analyzed the interview responses of my participants using keywords-in-context, word count, and thematic analysis, to triangulate the data. Table 14 provides a chart of the six phases describing thematic analysis.

Table 14

Phases of Thematic Analysis

Phase	Description of the process
1. Familiarizing yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Note. Adapted from Braun and Clarke, 2006.

Thematic Analysis Interview Results

Braun and Clarke (2006) argued thematic analysis "should be considered a method in its own right" (p. 4). These researchers set out to provide investigation of thematic analysis for researchers and teachers of psychology. Thematic analysis is a qualitative method of identifying and reporting patterns (i.e., themes) of selected data (2006). In order to cover all the participants' thematic analysis' results, I explored these results of the transcription, coding, and analysis, of the narrative and descriptive excerpts.

Phase one: Familiarize yourself with the data. During phase one, I transcribed the interview questions from the participants regarding their digital literacies in their

teacher preparation coursework, personal, and classroom applications. In the analysis of the data from my interview questions, I provided analyses of codes and meanings of interest stemming from the data surrounding my past preservice teachers' digital literacies definition, future practices of digital literacies, and what their future blended classroom environment might entail. I constantly moved back and forth between the data set, coding excerpts of analyzed data and data being produced. Braun and Clarke (2006) suggested to start taking notes and marking ideas for coding during this phase, therefore I began writing at step one, marking notes, ideas, and possible coding patterns, continuing my writing through the entire analysis method. Transcription of verbal data was needed in order to conduct a thematic analysis. This was key for data analysis and was "recognized as an interpretive act," creating meaning, rather than just putting interview words onto paper (Lapadat & Lindsay, 1999).

When conducting a qualitative research study, the researcher is the main instrument collecting the data (Denzin & Lincoln, 2005; Onwuegbuzie, Leech, & Collins, 2008). Therefore, taking notes, using journals, and creating visuals (i.e., posters) were the best options for me as the instrument that drove this study. Typing, transcribing, and reviewing was applied in three-to-four, five and ½ hour sessions. Ideas that transpired from these interviews were that of teacher preparation program, personal digital literacies, professional/education digital literacies, resources, interactions, and tools.

As a result of this phase, words and phrases that became repetitive in nature regarded participants' a) online resources, b) online integrations, c) old/new literacies, and d) technology tools. These were added as codes and applied to participants' teacher education program, personal, and professional digital literacies (i.e., research questions).

Figures 25 and 26 are examples of my notes, ideas, and coding patterns of participants' interview responses.

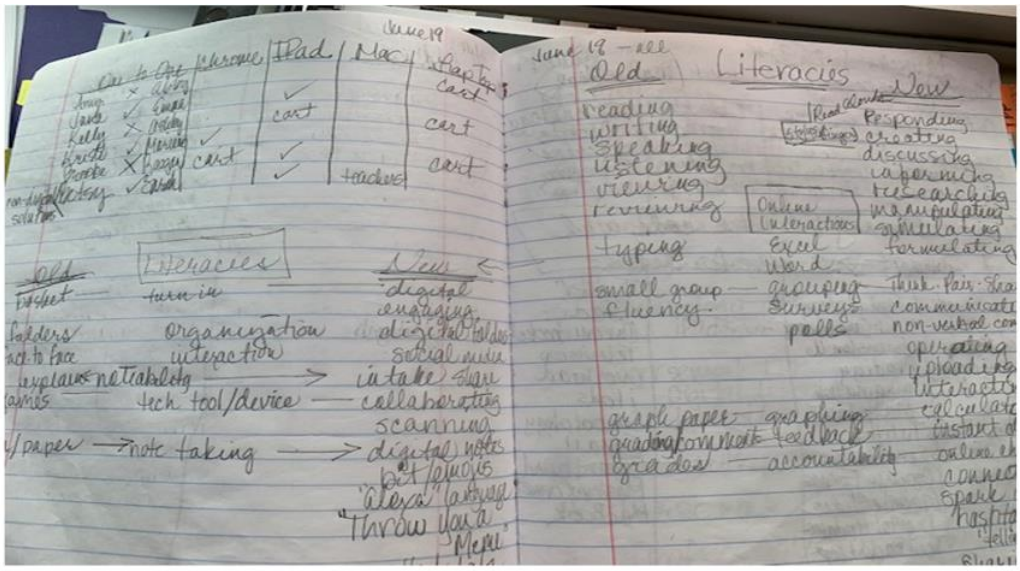


Figure 25. My hand-written notes from phase one in which I was familiarizing myself with the data from the participants.

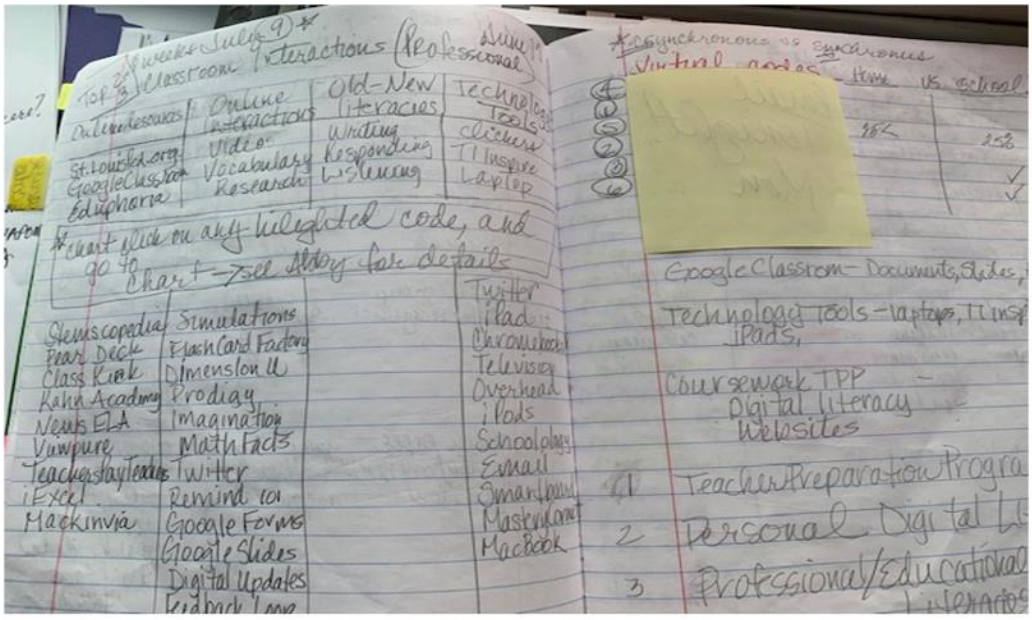


Figure 26. My hand-written notes, charts, and codes derived from phase one.

Phase two: Generating initial codes. During the second phase, I reviewed the interviews and accomplished initial coding using descriptions relating to preservice teachers' teacher preparation program and their personal perceptions of digital literacies. While studying the data, I employed Provalis Research's (i.e., QDA Miner) keyword retrieval and word frequency to determine initial codes. These first-cycle codes were extracted from the data, allowing me to search for themes in phase three. Codes generated in Phase Two were results of participants' personal beliefs regarding their digital literacies knowledge in their teacher preparation program, personal and professional practices. Coding surrounded a) resources, b) interactions, and c) tools with digital literacies. Data relevant to each code emerged and established ideas for Phase Three.

Phase three: Searching for themes. During Phase Three, I reviewed the initial coding sequence and added more codes to search for themes relating to digital literacies in participants' teacher preparation program, personal, and professional settings. These themes compared to those mentioned in the interview questions themselves. This comparison was a simple connection to those participants who were successful in coursework defining and applying digital literacies versus those who might have struggled making transitions from student to teacher using digital literacies and technology practices.

I read and reread the interview data over several more weeks, in three -to-four, two and ½ hour sessions, transferring all the keyword retrievals and word frequencies onto different colored sticky notes and placed them on a poster. The poster provided me a visual of all the participants' practices in their teacher preparation program, personal, and professional digital literacy practices, from preservice teaching to first-year teaching.

Additionally, I reread my research questions as a reminder to search for themes regarding preservice (i.e., now in-service) teachers' digital literacies in their programs, personal, and professional interactions.

An account of analyzing the codes and combing them to determine overarching themes is displayed in Figure 27. I thought about the relationship between the codes and different levels of themes. Once identified as a code, an original theme formed, which guided the analysis, interpretation, and arrangement of my research. Overarching themes, as well as, sub-themes emerged. A completed digital literacies practice list from each participant is in Appendix C.

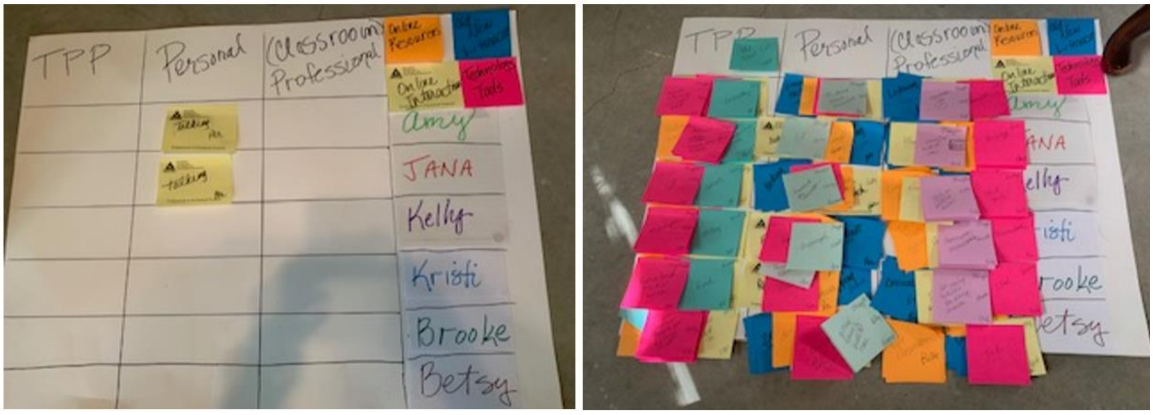


Figure 27. Phase Three themes developed from coding cycles. I used sticky notes for the codes and labeled themes with participants' names (pseudonyms).

Phase Three resulted in the following themes: teacher preparation program, personal, and professional use of digital literacies. Online resources, online interactions, old/new literacies, and technology tools, similar to KWIC and Word count results, were the succession of themes from participants' individual interview results and reactions to the interview questions.

Phase four: Reviewing potential themes. I reviewed potential themes as I read and reread the codes created from the interviews I conducted with my participants. I

reworked codes that did not adhere to this section and revised those that were on target with this phase. A second part of Phase Four involved the entire data set, the validity of the individual themes and if those themes accurately represented the thematic approach. I reread the entire data set to determine if the themes related to the data set and if any other themes might have been overlooked from the initial coding. Reviewing codes from phase three provided me insight in Phase Four, as I reworked codes into themes and sub-themes apparent to in-services teachers' applications: struggles in their teacher preparation program, personal and professional settings regarding digital literacies, other provisions in teacher preparation program, personal, and professional environments for the participants to become successful. They also provided advice for future preservice and in-service teachers regarding digital literacies practice.

Phase five: Defining and naming themes. Themes that emerged from the data sets were defined, referring to quotes and statements from participants. Simultaneously, themes were named with headings that provided ample support of teachers' knowledge of their digital literacies in their teacher preparation program, personal, and professional (i.e., classroom) practices. First, I identified the 'essence' (Braun & Clarke, 2006) of what each theme was about and the aspect each theme represented. Secondly, I organized the consistent accounts of each theme and added the content of the data extracts to include narratives to identify the interests of the participants. At the end of this phase, I could clearly identify the scope and content of each theme. Figure 28 shows written examples of organizing the themes and naming them in my notes and journal.

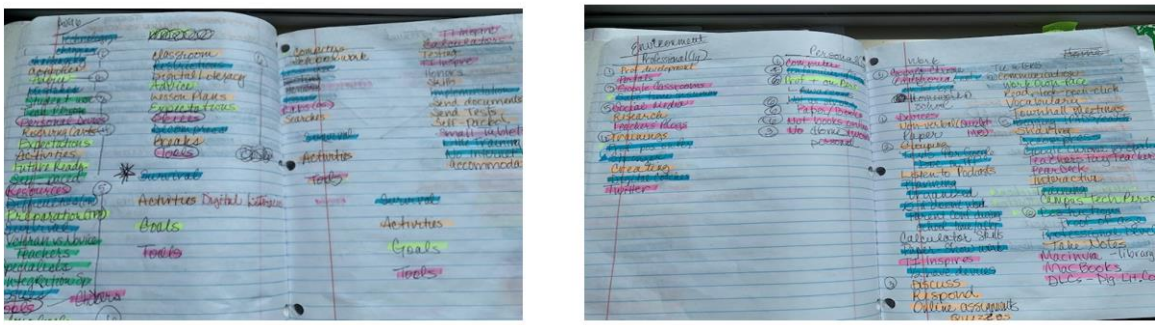


Figure 28. Naming and organizing of themes in my journal notes.

Themes identified from the first four phases were named and defined and they represent the participant's individual thoughts on digital literacies within their classroom with students, parents, district employees, and themselves as the teacher of record. The overlying phrases that emerged are listed as follows: a) people – defined as anyone that works at the school, students, and parents (i.e., teachers, students, parents, kids, learners, and coaches); b) technology – what was used by the students, parents, and or teachers, that provide a tool for digital literacy application (i.e., computer, iPad, calculator, Chromebook, laptop); c) environment – places digital literacies were practiced (i.e., professional, personal, home, work); and d) digital literacies – old literacies being used and transferred into newer literacies for the classrooms. (i.e., applying, creating, sending). After the initial analysis and naming themes in phase six, sub-themes emerged. These sub-themes included people, technology, environment, and digital literacies. Four more sub-themes arose creating the applications of a) survival, b) activities, c) goals, and d) tools in this section. These were reported in the cross-case analysis of the participants.

Phase six: Producing the report. This final phase was the write-up of the thematic analysis, to tell the story of six in-service teachers conclusively and provide validity of data analysis. The write-up contains evidence and examples of the importance of providing preservice teachers digital literacies in their teacher preparation program so

they will be able to apply digital literacies in their own classrooms. After much deliberation and interaction with the themes, I wrote the report that included an analytic narrative, telling the story and providing an argument of the importance of using digital literacies in teacher preparation programs. In Table 15, is the 15-point checklist I applied from Braun and Clarke (2006) to determine whether I generated a strong thematic analysis.

Table 15

Checklist for Thematic Analysis

Process	No.	Criteria
Transcription	1	The data have been transcribed with detail and transcripts have been checked against the audio tapes for accurate findings.
Coding	2	Data items have been given equal attention in coding.
	3	The coding process has been thorough; however, themes have not been generated.
	4	Relevant extracts for themes have been collated.
	5	Themes have been checked, rechecked, and compared to the original data set.
	6	Themes have been consistent, distinctive, and logical.
Analysis	7	Data have been interpreted and analysed beyond a description.
	8	Analysis and data were compatible, the extracts provided evidence of analytic claims.
	9	Analysis told an organized, convincing story about the topic.
	10	Narrative and descriptive excerpts were provided.
Overall	11	Equal time was allocated to complete all phases of thematic analysis.
Written Report	12	Thematic analysis approaches were clearly explained.
	13	The described method and written reported analysis are consistent.
	14	Concepts and language of the report were consistent with the epistemological position of the analysis.
	15	The researcher was active in the research process; themes did not just appear.

Note: Adapted from Braun and Clarke, 2006.

Summary

Included in this chapter are the methods of analysis used for the interview data. The analysis provides a detailed process of the findings generated by using the coding methods of keywords-in-context and word count, steered by QDA Miner and Word Stat. These coding methods were then applied through thematic analysis (Braun & Clarke, 2006). Chapter VIII, I provided a cross-case analysis of all six participants' interview responses.

CHAPTER VIII

Case-by-Case Analysis

Chapter Overview

I provided a cross-case analysis of all six participants' interview responses in Chapter VIII. In each participants' overview, there are figures of examples of technology tools or digital interactions they used in their classroom (i.e., Notability, Peardeck, and TI-Nspires. Tables are also supplied to share participants' top online resources, online interactions, old and new literacies, and technology tools. Throughout this chapter, I tried to portray picture of the participants' perceptions and ideas of their digital literacies in their program and what they transferred into their first year as classroom teachers.

Introduction

This study explored six female teachers' perceptions of their personal and professional digital literacies in their past teacher preparation program and present role as a classroom teacher. All participants were presently teaching in Title I schools. One, semi-structured, 60-to-90-minute interview of each participant took place in May 2018 at a location convenient to the participant. Analysis of the coursework assignments, lessons, and discussions they produced as preservice teachers, was conducted before the interviews.

The participants for this collective case study were female teachers who were enrolled in one or more of my courses between the 2015 - 2017 semesters. I selected six of my former preservice teachers who displayed personal digital literacies practices in personal and professional lives, as well as those who produced activities and assignments embedded with digital literacies during their teacher preparation program.

One of the inservice teachers who originally accepted to be in the study, decided not to participate. Therefore, in contrast to the five participants who felt comfortable using and applying digital literacies and technology in coursework, I selected one participant who spoke of themselves in coursework as "technically challenged." I did observe her increased personal and instructional digital literacies towards the end of my coursework and through her three required lessons taught in her field experience placement.

A camaraderie between the researcher and their participants will lead to a comprehensive understanding of the interviewees' perceptions and experiences of the topic (Roulston, 2010). A rapport was established through the teacher preparation program in my courses; therefore, I was able to obtain an accurate and self-revealing conversation during the interview process. This rapport lead to a comprehensive understanding of the interviewees' perceptions and experiences of digital literacies in their personal, instructional, and professional careers. I offered each participant an option of reading the completed interview (i.e., debriefing) after it was transcribed, to send any revisions or corrections back to my office mailing address. This timeline was 2-3 weeks and no participant chose to send any corrections. The following accounts are narrative and provide validity of data relating to the importance of teacher preparation programs providing preservice teachers practice and application of digital literacies for inservice teacher's instruction and learning. After comparing coding cycle patterns derived from thematic analysis (Braun & Clarke, 2006) with key-words-in-context (Bernard & Ryan, 2010), and word count, several prominent codes occurred: strengths, struggles, top online resources, and advice for future educators with digital literacies in their classroom.

Amy

My first participant to interview was the final participant I recruited for this study. Amy did not portray as strong of an understanding of digital literacies throughout coursework in the teacher preparation program as did the other participants, however, I was glad she agreed to participate. This would provide me a balance of participants with strong digital literacies in teacher preparation program versus those whose practices were not as solid. Also, Amy mentioned many times during one-on-one office hours, as an English Language Learner (ELL), she struggled with vocabulary in all content areas, especially math. Amy was in her first semester of teaching, having taught just since January of that year, in the same school where she did her field placement and student teaching.

Amy discussed her strengths in her classroom were knowledge of setting expectations for her students, their assignments, and the use of laptops from a checked-out cart shared by the sixth-grade teachers. Setting expectations, she recalled learning from several courses in her teacher preparation program and she believed in that student strategy. Amy recapped a specific assignment in my coursework where everyone worked on a document simultaneously (i.e., Google Doc) used that for literacy vocabulary. While Amy understood the instructions, she did not connect digital literacies to this assignment. She did not feel she received a total grasp of the concept.

I just really didn't get much um, I just didn't really understand it (i.e., digital literacies) as well; I just couldn't get a good grasp of that information. And I guess now, now we are implementing something new, such as the TI-Nspire calculators; I personally don't know how to use a calculator, like the ones they have now.

As the interview progressed, I could feel Amy's struggle with words and what she wanted to say. She was worried her answers were not right and that she was not doing a good job. I reassured Amy her answers were applicable for the study and there was no right or wrong way to address the questions. She relaxed and wanted to continue.

Amy started out by mentioning that several of her teacher preparation program courses prepared her for digital literacies in college, recalling one assignment she was using presently. The assignment she was using was a Google Doc vocabulary assignment. In this assignment, students choose a vocabulary term, post it in the shared document, identify the definition, provide a "friendly definition," and finally, create a visual to represent the term. The vocabulary terms must deal with reading in the content area and diversity of students. Based on the workings of a Google Doc, students can work at the same time, at their own pace, and in their own chosen location.

Amy was using this same concept that day with a lesson on financial literacy. She stated she created a Google Doc of financial literacy terms where they researched, worked collaboratively, and controlled their working pace, all a part of this assignment. The students were searching for definitions for vocabulary terms (i.e., loan, grant) and as she explained what they were doing, I realized she was teaching digital literacies at the same time. She validated that learning about vocabulary and its importance in her teacher preparation program, in which she focused on in her present lessons in teaching math. In coursework, Amy used digital literacies when preparing and delivering her lessons, and now, in her classes, she follows the same practices.

The teachers in the sixth-grade wing shared a cart of laptops and when she used them the first time, the students all knew how to operate them successfully. She

communicated the assignment tasks and procedures to the students, and she provided enough instruction for them to complete the assignment without instruction on the laptop, because students were already fluent in using the laptops from other classes. Again, I mentioned to her how these actions and activities were all digital literacies that she was implementing in her classroom. Amy indicated that she wished her teacher preparation program provided a way to help her grasp the concept of digital literacies and explain how it was applied. She mentioned just talking during the interview, gave her more of an idea of how digital literacies are defined. She inferred implementing the strategies, as she was doing in the present, gave her a better grasp on the ideas of implementing digital literacies in her classes.

The school where she teaches implemented the TI-Nspire calculator for students in math and science, a class set for each teacher. She discussed the great opportunity that it was to have this "small tablet" to use for tests quizzes, and worksheets. The best part, she mentioned is that they can work at their own pace, which she said was very important. She would have students who were not ready to move on, or better yet ready to move forward before she went over the questions when not using these tools. These calculators give the opportunity of the students move at their own pace. She confirmed her lack of knowledge with the TI-Nspire calculator. She was unsure of how to use them completely and stated she only had one hour of training. Amy concluded that if she had been trained in those calculators in college, she would have been better prepared for using them now.

The top four classroom interactions from the analyzed coursework data were online resources, online interactions, old/new literacies, and technology tools. I wanted to

know what they used in their classrooms. I included the participant's answers in Table 16 to provide a better understanding of analyzed data.

Table 16

Amy's classroom interactions

Online Resources	Online Interactions	Old/New Literacies	Technology Tools
Stlouisfed.org	Videos	Writing	TI-Nspire Calculator
		Responding	
Google	Vocabulary Research	Listening	Laptop

Note: Online resources for participant's lessons and her student interactions.

When preparing for instruction, Amy said that she used whatever materials and resources that the instructional coaches give her. She indicated the instructional coaches put everything in Google Classroom and that she really tried to use everything that works for her students. She recognized that not all students learned the same[4]; however, she stated that she wants to challenge her students, in addition to helping them become successful. Students were able to use a set of classroom textbooks for instruction, although Amy said she used notes and foldables for their journals, which they can take home and study. I asked her if she used Google Classroom and she alluded to her time and how she has not had much time to explore. Consequently, she said that she has not been able to share information with her students in her own Google Classroom, although she replied, "creating a Google Classroom was definitely on her future agenda." When interviewed about how much time she her students spent on using digital literacies in the classroom versus at home, or an average, Amy reported, "Every single day!"

[4] I was pleased that she said this – "all students do not learn the same."

> When they really come to school, they know what to do. Sometimes they even tell me, “Hey, we have to do it like this.” They sometimes give me ideas of how it works, so I feel like they use it every day. Some of the students do use it at home, although I can see that some don’t have the resources or tools for that. I can tell some of those, and those are the ones that actually, they come and ask me, they need help. They work on it at school, in PAWS (I never caught the acronym), advisory time.

I asked Amy to rank the integration of students’ use of digital literacies in instruction, research, and presentations from one to three with three being the highest. Her rankings verified that she used digital literacies most in teaching and instruction for her students. I asked her to provide examples if she could. Amy responded how hard it was to think right then and asked for more examples. I elaborated about doing instruction, she had written things on the board, and she had a calendar of what each class period was doing for the day, and that they could use the laptops or their phones. She mentioned one student did ask to use his phone; however, it was a school rule that they cannot use their cell phones.

Amy was adamant about following school policy and they had laptops and TI-Nspire calculators to use for that specific assignment. She validated the calculators had no Internet access; therefore, the students would not have much of a distraction. She concluded that some teachers did let their students use their phones and the students say, “Well my other teachers let me use it,” which confused them. Again, she stated she tried to follow the rules, which made it harder when they could use it for other classes.

Another topic we discussed was personal versus professional digital literacies – how did she compare her personal digital literacies to the ones she used for professional application? Amy compared her personal to her professional digital literacies as very similar entities. She used them when she communicated with teachers and parents. Contacting and communicating with parents was considered the same thing in her eyes; she applied them the same way. She contacted parents through emails and phone calls. Her personal preference in contacting parents was a phone call from her cell phone because she said it was more personal. She perceived emails put out a tone, which can cause a misunderstanding; when writing she said she must be careful to write everything just the correct way and hearing the tone and words are different than reading them on an email. The teachers used Remind, which is a text or email alert system, for parents to be notified of what is going on at the school, such as events, emergencies, or canceled classes.

When questioned about online or face-to-face classroom community platforms she participated in, she jumped right in with 'town-hall meetings.' She was animated as she described the town-hall meetings. These meetings involved teachers gathering and consulting about adjustments needing to be made, what students are doing, and the different goings-on in the hallways. They discussed seventh and eighth grade happenings, compared sixth grade issues and how they could overcome the problems. She said everyone was very positive and it all came together. They worked as a team to fix the problems, got the students motivated, and attempted to find ways to adjust students' behavior.

They currently were running two planning periods, which helped her stay connected to her team, one is in the morning and the other in in the afternoon. Amy mentioned the met with parents a lot during these times, to accommodate the parents' schedules. Every classroom had a phone that could connect to the outside or office, which helped with less interruptions over the loudspeaker. I found it interesting that they did not use bells, except for the start and end of the day. She speculated that students were abusing 'lining up' or 'packing up' before the teacher dismissed them, and that eliminated a lot of the problem.

When discussing any issues with technology or restrictions in the school, she was unsure about any restrictions. She mentioned that some districts block social media websites, although the only thing that was a restriction was when her whole computer went out and nothing would work. She called an Instructional Technician (IT) person, on the staff, to fix the issues. Unfortunately, it took a whole class period for someone to work on it. Instead, she resorted to writing on the board, talking to the students, with them listening, and then attempting to provide visuals for them (e.g. old and new literacies).

One assignment she named excitedly was a money lesson the students had been working on in class. They used the laptops and online websites to answer questions she had created regarding money and spending. The students typed in the website, searched the page, and answered the questions – they did their own research, read the instructions, and looked for the answer.

They had to know how to open a webpage, they had to know how to click on the video, most of the kids already know that. It's not like when I was younger too, where they had to teach us - use your mouse. Kids already know everything. It's really simple now.

Amy mentioned how she used old literacies – writing, reading, listening, and responding – with her students and assignments. As she discussed her students responding to her questions and their classroom discussions, she did not relate these to any new literacies or digital literacies. Although Amy had some great ideas of how she was implementing digital literacies in her assignments and classroom, she did not recognize that they were actual digital literacy practices. I listened to her explain the use of TI-Nspire calculators and her lack of knowledge of using them, it was clear she was not confident in what she 'thought' she was supposed to be doing with technology. This provided me ample areas of discussions I need to have with preservice teachers regarding what digital literacies and new literacies consist of regarding educational application.

When referring to her top online resources, Amy highly regarded the math instructional coaches, who provided the teachers with activities and lesson plans within a Google Classroom school document. These activities were often altered by Amy to fit the needs of her striving students and to challenge her higher-level students' critical thinking. The students used their journals for review, as they include notes and foldables from daily activities. They had a textbook in the classroom; however, it is not online.

Amy mentioned again that she was just finishing her first ½ year of teaching, so she relied mostly on what the instructional coaches provided for her and what other teachers shared. A financial literacy assignment was something Amy's students were working on at the time of the interview and she recalled a website as an online resource,

as well as Google Classroom. Google Classroom was where her colleagues housed many of their instructional practices and lesson plans. Amy had not had the time to investigate any personal or professional activities within Google Classroom, although she was interested in learning more what her district provided and planned to research it when she had more time for planning.

Her personal use of digital literacies was compared to communication in professional usage in the classroom. Amy stated communication was something she saw that crossed over both personally and professionally. She used cell phones and school phones to communicate with parents, however, students were not allowed to use cell phones in the classroom. Amy liked to hear actual voices when talking with parents, because of the professional tone and conversation. She could make sure her point was getting across on a phone call, unlike in an email or text message. Communication within the school involved Remind 101 and town-hall type meetings for teachers to discuss upcoming events, issues with students, and lesson planning instruction.

If she were addressing future teachers in a teacher preparation program, Amy would advise them to set their expectations early and be consistent. She applauded the teacher preparation program where she was enrolled, recalling several times she read or heard a professor state, “Set your expectations early and make sure you know what you want your kids to know.” Upon entering her first classroom, Amy’s initial introduction involved setting expectations and letting students know the activities for that day. She stated the kids come in anxious of what is going on around them; so, setting the expectations and explaining what was happening that day, they can prepare themselves. Whenever Amy made a lesson, “this is what I am going to do today, this is what I’m

expecting. Make sure you are doing what I'm asking you to do." She realized it took a lot of time in the class, during the class period, to share her expectations with her students, although her days went much smoother.

Although Amy was certainly a willing participant to be interviewed, she seemed to lack confidence in what I was asking about digital literacies and what she applied in the classroom. She recalled several times when she learned about setting expectations from the TPP, so she felt that was the best to advice to offer future educators.

I think that if…just make sure you are very clear with your expectations, I mean students, sometimes before, they know what to do and even though students are well aware of what the technology is and how to use it, they still require very clear expectations. Breaking down, baby steps, as if you were to teach in kindergarten, they need that. Then they ask, they are left with a lot of questions. They don't know sometimes, sometimes they don't think of, well how do you turn this computer off, some kids don't know, because they don't have those tools. So, we need to actually show them.

Amy's statement regarding students' metacognitive skills, was very concrete. Amy felt emphatic about modeling visual and physical skills and to make sure students were applying them in the classroom. "It starts with the teacher modeling," according to Amy. However, she stressed the importance of setting student expectations to assist her students, again, as a tool to guide the days' outcome.

Jana

My second participant to interview was Jana, who was the first participant to agree to be involved in the study. I knew I wanted her participation because of her teacher preparation activities, discussions, and involvement with digital literacies and

lesson plans in coursework. Jana was finishing her first year at a title one school in the Southeast region of Texas, where she taught sixth grade science, with an eighth-grade tutorial class.

Jana recalled the comparison of online platforms in her TPP to what she used in the classroom. Her district used Canvas as their communication and because of the background of using a similar program in her TPP, she applied many of those activities in her classroom. Her students used discussion posts, looked at videos or chapters in a book, calling it her “teacher report card.”

At the end of each unit, I'll create a discussion and I ask them questions about what did you learn, how did you do it? I'll put a video about our next unit. So, we'll do a lot of discussion posts that way. We don't do a ton of assignments on there, but I do put coursework up there, notes, reviews, homework. They answer them in class, when they are done with the test. And leave it open for one to two days because what we'll do the day after a test, is a test analysis. We'll go through the test with partners, and they'll come to like a common agreement, a common answer. If there is time, we'll go back to it. So, I kind of use that as feedback for "this was good, OK, this was not good. I did one right before spring break, they all went home, ‘This is what we did for spring break!’

She complimented her teacher preparation program and coursework assignments as they use a similar online platform called Canvas in their district. I looked up Canvas’ website and discovered this definition – an online platform that makes teaching and learning (and implementation and adoption and student success and bragging to your non-Canvas-using peers) easier. The background of the online platform that was used in education classes prepared her for teaching. Both include discussion posts and videos or

chapters in a book. At the end of her science units, she said that created a discussion and asks questions about what her students learned or how they learned or posts a video to preview the next unit. She provided notes, reviews, and homework using the Canvas online platform. Concluding the unit posttest, they answer the discussions or questions in class, then complete a test analysis. They shared the tests with partners, then decide on a mutual answer. She was very proud of this application and how they provided feedback on what needed to be worked on in the future to be for her students to be successful.

Jana listed digital literacies, or what she believed to be digital literacies that included test reviews, keys for assignments, notes, and online resources. The teachers were showing students how to establish credible resources, in which they discovered just that day that Google images were not a reliable source. She started thinking and paused, saying, “I feel like there are so many things about the program I remember, but do not recall.” I assured her that we could come back to the question or that an answer might ‘pop’ up when I ask other questions. I let her think another 30 seconds and she stated that she uses the TEKS (Texas Essential Knowledge and Skills) app all the time. She downloaded the TEKS app in her teacher preparation program for lesson planning, and said she used it in the data meetings and where she opened the app to find the corresponding TEKS with the lessons, which made planning easier.

Activities that she applies digital literacies to in her classroom involved more hands-on, rather than a lot of technology. One of her teacher preparation courses prepared her for an online simulations resource she learned as “P.H.E.T” (i.e., the letters spelled out). PhET Interactive Simulations, a project created at the University of Colorado, Boulder, is a non-profit resource for educational, explorable explanations. She alluded to

some concepts the students can not actually see (i.e., the earth rotating around the Sun), although they can manipulate and do some cool things through the simulations.

Looking back to her first full year as a science teacher, she compared what she learned in the teacher preparation program to things she needed to know as a first-year teacher; however, most of it she made mention, were district-type actions. Activities such as putting things into a lesson plan-district website were important to her. Jana mentioned that the structure and inclusion of district happenings could not really be 'taught' in the teacher preparation program. Jana said that she never learned how to format, spreadsheet programs like Excel, or word processing like Word . She used Google Slides frequently, although she semi-taught herself how to use that program. She suggested that this might be old-school, but formatting was something she did daily and was struggling with it, recalling not a lot of training in her college years. Jana remembered a college class, involving only technology. She remembered the professor's name; although, she indicated that the course did not seem up to date, because of ever-evolving technology.

Jana speculated that she learned Quizlet in college; however, everyone had moved onto the next level (i.e., Quizletlive or Quizziz). She recalled Quizletlive as a team-collaboration game using non-verbal skills. The students had a hard time not "screaming out answers," which she mentioned as a plus in learning non-verbal communication. She had many videos of them pointing, gesturing, etc. - she said it was her favorite, engaging technology tool.

> It is engaging! They use their iPad, and it is not just repeating a skill over and over. Quizletlive is an upgrade. Anything else that can engage the students without be repetitive. I do not recall anything I missed or wished

> to learn in my teacher preparation program, just that technology changes so quickly. I learned how to use the Smartboard in college, however, what if the district did not have Smartboard technology? Therefore, learning it would be pointless.

When asked about turning in lesson plans, the district had a portal where they are housed, as well as the T-TESS (Texas Teacher Evaluation and Support System), professional development, and assessment data. The portal was Eduphoria (http://www.eduphoria.net/) and only worked on Google Chrome. After getting 'sling-shot' out fifty times on Internet Explorer, she learned it only worked on Google Chrome. She said Google was her search engine of choice. Jana recalled creating a Twitter account in my course. Her district was huge with Twitter, "Everything is Twitter." She created one for her school to promote field trips, lessons, engaging classroom creations; to showcase what they are doing in class. After trying to create her school account, Twitter popped up saying she already made a Twitter account. She was excited to remember that she did it in my course! That was something she was thinking about before the interview and was glad she brought it up.

I was glad she mentioned it then, because it weaved with the next question. I asked Jana her top two classroom interactions for teachers and students including the four categories listed in Table 17. I explained each category and she misunderstood the question, answering which of the four categories were the top two. She perceived online interactions and old/new literacies and wanted those explained again. I provided her examples of old literacies being reading and writing, where new literacies would be something the students do with reading and writing (i.e., responding and creating), then

the digital literacies being the tools they apply to it. I applied the simulation tool they use in class as the example of online interactions.

Table 17

Jana's classroom interactions

Online Resources	Online Interactions	Old/New Literacies	Technology Tools
Eduphoria - teacher	Simulation - students	Responding/Guided questions - students	Twitter
STEMscopedia – teacher and students		Reading, writing – teacher and students	

Note: Participants' resources for their instruction and student interactions.

Jana recalled simulations as her top online interactions. She explained there were over 100 active simulations, so the instructional technologist (IT) broke it down to what the teachers wanted the most. They created a student-guided 'worksheet' where students click on the boxes if they chose this answer or this box if they went this route. It was on the devices (i.e., iPads), which she reported it seemed to help students recall the lessons frequently. A student brought an example of mass and force, asking to go to the 'skateboard' activity simulation, and she recalled that they did that, "forever ago," yet, still remembered and made a great connection. They did simulations on minerals, describing a diamond in class.

With the simulation, guided questions, and reflections the students provided at the end of a unit, Jana connected this to responding in both online interactions and new literacies. The students explored the simulation site, continued with the guided questions, and reflected on their learning. This was the first time she remembered students doing it on their own. She loved that she could just 'chill' and sit in the lab; they did not need her, they were doing their own thing. She said at that moment she thought, "What do I do

with myself?" The students mentioned it was the best day ever! She loved that! I remembered Jana doing that in her lessons in field placement II, in the teacher preparation program. She never sat down as long as the students were in the room. If they were engaged in an experiment, she was walking around asking questions about their finding.

For online resources, she mentioned Edphoria and STEMscopedia for print-out readings for instruction. The students would log into STEMscopedia and the 5E lesson plans (engage, explore, explain, elaborate, and evaluate) were already created for them. When I asked her about the quality of the lessons, she said they were not always the best, although they were applicable for students who need interventions. She said she used the vocabulary lessons for her students in special education (SpEd) or English Language (EL) students for practicing and writing. My hypothesis of her district was that they were in high demand of technology and digital literacies usage, and she agreed 100%. She added that the professional development meetings contained a lot of technology practices, which she was "all about!"

In contrast to heavy technology usage, Jana did introduce the fact that it was important to unplug; to take breaks from technology. Her sixth graders did not have a problem with putting their phones in their backpacks until they were needed, which was a rule in her class. However, she was involved with eighth-grade tutorials in advisory for STAAR, at the time of the interview, and they were not as motivated. "I can't, not be on my phone!" the students would tell her. It was a huge difference she said between the two grades, "I just reminded them to put it away, they needed to be on track with tutorials and I cannot see your success when you are on your phones." I told her about my daughter's

school, she is in the sixth grade and can get on their phones to listen to music when working independently, then can get on them for ‘whatever’ when they are finished with their work. I mentioned I was not happy about that, she needed to be reading or taking notes, not playing on her phone! In Jana’s classroom, she has a ‘Double Tapping Rule’ – if she saw double tapping, they do not get to use them anymore.

Although she had already mentioned online resources (i.e., STEMscopedia), she referred to YouTube as her top resource to prepare for instruction and student use in coursework. Jana used a lot of videos when she was unsure of something in science. She was not in attendance the last two weeks last two weeks of school where she was student teaching in sixth-grade science. She had already graduated, and they were not required to attend. All the science units ahead of that, she sailed through during her first year of teaching, because she previously taught it during student teaching. The unit ‘space’ she recalled she knew little information, so she looked up space videos and studied them. She looked for things like, “Why is the moon not a planet?” She knew her students would be very curious, and she wanted to be on top of ‘space.’ She could answer those questions with ease, knowing she studied them on YouTube Videos.

The most interesting (i.e., to me) online resource tool she used was the Amazon Alexa (i.e., a cylindrical smart home speaker imbued with artificial intelligence: Amazon.com). Jana was unsure whether that was considered an online resource, or a tool, I mentioned I thought it was both. Her sister gave it to her for Christmas and I declared that I thought it would be a great teacher gift. She talked about the quality of the speaker and how she had issues with turning Alexa off. She had lost her voice at one point during the year and could not end her music because she couldn’t make any

noise to ask her to stop. Her physical classroom she recalled as large, so setting a timer or music playing, normally, she just told *Alexa* to turn off. She used the Alexa speaker for peaceful, classical piano music from Spotify to keep background noise in the classroom**.**

I asked about her student interactions with online resources. Jana mentioned they used simulations and responding with an ISN (Interactive Student Notebook), which used to be Interactive Science Notebook. Other content areas at her school took over the ISN, so it was renamed 'Interactive Student Notebook.' She was surprised that these notebooks were left in the classroom and students did not refer to them as a resource as often Jana would like to see. Another resource she used were 'Speed-Sheets' which she recalled as, "Heaven-sent, the best things ever." Consequently, Jana compared it to pulling teeth at the onset of introducing them. 'Speed-Sheets' were ½ sheets of paper with the current topic on front and an older concept on the back. They were finishing the rock cycle, so she explained the rock cycle was on the front of the speed sheet, where the students labeled the arrows in the cycle.

They built upon the topic throughout the week, so the students were getting a review daily. They reviewed for quizzes with these sheets, then questions were generated for the tests. They were doing a test analysis and a girl responded, "I know this because of the "Speed-Sheets!' Jana countered to me, "Oh yeah, they work!" Because of these speed-sheets, they knew their stuff, recollecting they memorized the sheets from Monday – Friday. "By Friday, they know it," she mentioned excitedly. She identified that as an awesome resource, although she mentioned it not being an online resource. They used the Internet to get the information, so she perceived the 'Speed-

Sheet' was the tool to drive instruction. Jana told me they placed them in their binder, or sometimes they ended up on the floor. She was not concerned with that because they already knew the information, "Which is awesome!" she said. I told her she should record her students being introduced to speed-sheets, then again after the master them. She can prove they work by showing how they complained about three-minutes, then how they mention they know a test answer because of the sheets. She already planned to do that the first day of school next year. She wanted to record their reactions, "What? What do I do?" We agreed it was a great plan.

Jana estimated her students spent a 'good amount of time' in advisory, using digital literacies in the classroom. When the students did not have tutorials, they used Canvas for homework. Different grade levels used different means of homework – seventh grade completes homework online, sixth grade turns in homework on paper. Since many sixth graders did not have personal, hand-held devices at school, she mentioned paper was just as efficient. By seventh and eighth grade, most of the students had a personal device at school, thus, online homework turn-it-in worked. She recalled reading, writing, and math teachers prepared a lot of stuff online for their students.

When she greeted everyone at the door with a handshake, which she learned in her teacher preparation program, she looked them in the eyes, and said, "Phone in your backpack? Any food or gum in your mouth?" They say, "Yes, then no." She shook their hand and they went in the classroom. She did not start this trend until October and surprisingly, the whole dynamic of the class changed; they got their act together – her face lit up at this statement.

During her seventh-grade lunch duty, Jana started a recycling unit at the school. She viewed the big recycling section during lunch duty, and saw people using it. Jana was emphatic that students used digital literacies at home, all the time, especially cell phones. Although they did not have them out in the classroom, they did at lunch. Students were sitting across the table, Snap Chatting each other, and trying to find her iPhone connection. She already changed her name on her iPhone to a pseudonym, because she was trying to be anonymous, to bribe a kid she was babysitting to behave. He liked the dog from a movie, so she named her iPhone after that dog, and would say, "We can text (insert name of dog from the movie) today if you are good." So, no one could recognize her and find her iPhone. Students were always airdropping her pseudonym weird pictures and memes and selfies. She thought to herself, "Ya'll have no idea this is me! If you knew it was me…hahaha!" They had weird names too; she was unaware of who they were when they airdropped her. She mentioned 'find-a-friend' as a tool, and I mentioned Life 360.These are online apps to locate your family and friends. She said a lot of her parents used Life 360 and indicated that would be good to use on a field trip or University Interscholastic League (UIL)[5] event.

In regard to her integration of digital literacies in the classroom, I asked Jana to rank these from one to three (i.e., three being the highest) – instruction (you), research (students), and presentations (students). At first, she mentioned all three as a tie. Although regarding research, she narrowed it down to the sites the students viewed, recalling a time when students visited a website to pick a planet to research. The students all used Google images at first. Then she reminded them to use the videos she provided –

[5]University Interscholastic League is organization that creates rules for and administers almost all athletic, musical, and academic contests for public primary and secondary schools in the American state of Texas.

videos of (.org or .gov) for this research activity. Her students had just started developing their research habits, and asked what websites were safest. In short, she reminded them to check the ending for (.org or .gov) or even NASA, reassuring them they were on the right track.

Jana wavered between presentations and instruction, as her number two interaction with digital literacies in the classroom. The students were given a choice of presentation tools (i.e., Flipgrid, posters, Google Slides), although she used a lot for instruction as well. The sixth-grade teachers all used the simulations and videos for their instruction and planning. She gave an example of Black Holes, in which created curiosity in her students as they studied the layers of the Earth. They asked, "is the Earth flat?" I had to show them videos and talked about why the Earth was not flat. "You cannot say that in this room!" she emphasized. They all tried to tease her with funny things on Instagram that were jokes about the Earth being flat. She meticulously stated to her students, "The Earth is not flat, let's move on from this!"

When comparing her personal digital literacies to her professional application in the classroom, she cited them as being similar. When she was unsure of the topic of a lesson unit, she watched YouTube videos that had studies on the topic. She recalled doing that personally, as well. When she was curious about something, she listened to podcasts or watched videos. It helped her with school, when she was planning, which occurred a lot at home. She was unsure about the comparison between personal and professional actions online; however, stated again, she felt like they were similar.

The blended (i.e., face-to-face and online) community platforms she was involved in were Canvas, Twitter, and weekly emails to parents called 'Week at a Glance.' She

laughed when mentioning her worst teacher mistake so far was sending a 'Week at a Glance' out to parents but provided the wrong title – 'WEED at a Glance.' Jana was used to auto correct on her phone, so she was not prepared for the computer not to correct it. A parent send a response email stating, "I almost deleted the email titled 'Weed at a Glance,' but then I opened it because I saw your name." She recalled being mortified! She responded how sorry she was and that it was supposed to be WEEK at a Glance. She now triple-checked her emails, especially week. She did let her assistant principal (AP) know about the mistake, especially since it was her first email to parents – she said they could laugh about it now, but not then.

In addition to those platforms, they used distributive list (DL) [6] emails to faculty, although she was not exactly sure what the distributive list (DL)stood for, stating she should know that! However, she did know the emails went over the whole campus, and decided she was going to look that up when she returned to campus. She was unaware of how to send a distributive list (DL) email. Jana recalled that if something was an emergency, she texted at the last minute that something was happening and she needed help – "my lab is falling apart, I need help" – and that would be to her Instructional Technology (IT) person.

Given the statements about how her district was an advocate for teachers and students' technology use, I was curious about any restrictions she encountered with technology. However, she did mention that because they were not a STAAR tested subject, the sixth-grade classes had six iPads per classroom, versus 16 in the eighth grade,

[6] I looked up DL after the interview and remembered it representing a distributive list. Distributive List - a feature of an email client program that allows a user to maintain a list of email addresses and send messages to all of them at once.

which she cited as a restriction. Eighth grade was a STAAR tested subject. They were a Title I school, therefore they received more money for funding and technology, although she did not have a full set of iPads in her classroom. Jana's largest class had 26 students and trying to use six iPads was difficult. If it was something spur-of-the-moment, she mentioned she had four students with cell phones. They had 10 devices to share and 'buddy' up with. If it was something she had prepared for, there was no issue of borrowing iPad from teachers in seventh and eighth grades, especially from the teacher across the hall. This teacher went through new training at the district level with Jana and they referred to each other as 'best friends forever' (BFFs). She was excited to state they would both be teaching sixth-grade science the following year.

Other tools she mentioned, under all categories, were the use of motion probes that connected to computers, going through motions and other activities. One unit they were studying used these motion probes for movement. "Walk backwards; spell a letter in the alphabet," Jana recalled these few things the probes could do. She recalled that day as, "being a good day!" They also provided them with temperature probes; however, they had not used these yet at the time of the interview.

Finally, I asked Jana about addressing future teachers and/or veteran teachers, and she had a lot of good advice.

> I think the advice I'd probably give, is find the time to use it (technology) but find the time to detach from it. Because there is only so much, they can learn from doing something online. But like the experiences and moments they have in class, actually fact interactions, you see more of the student. I think they have better experiences learning like that, because

> even if they are doing stuff with technology and I'll partner them up so they can talk about it. Really big on talking on wheat we are learning about and I hear like really good conversations and questions. It's just a lot of now, a lot of people are pushing too much technology. And they are like, we want to be up to date, be the best district. It's just sometimes overwhelming.

Jana mentioned going 'Old-School' again, when she had students getting pencil and paper out. She remined them they need to know how to do paper activities as well. When comparing technology to paper and pencil, she asked the students questions, – "What if your phone is dead? What will you do?" She wanted to teach them the 'art of detaching' because they needed that calming period, that down time, where they did not worry about who was posting what or who was talking about this or that. Adding, her students needed to stop and take a breath, focus on the now – she smiled stating they had a good time doing that. "I like technology a whole lot, but sometimes it is too much," she reiterated.

To sum up our interview, she restated how digital literacies were the reading, writing, responding and tools were the technology teachers and students use for the engagement, to be active thinkers and learners. The activities she recalled with discussion boards, even if the students wrote them down versus online, were digital literacies; talking to each other face-to-face was just different. She added, "communication." I applauded her for that word, stating that was important as a teacher to communicate with students and have them communicate with each other. She discussed the test analysis assignments again, explaining they could only write 2-3-word answers on how they arrived at their answer in an independent format. When discussing with a partner, she

reminded her students they could not just repeat what they had written. This had students replying and discussing so much more. Jana recollected that classroom discourse allowed connections between students and that discourse allowed more information from students.

Since she completed her intern field placement II in the school where I was currently observing, we discussed different activities she remembered that involved writing and reading, in the non-traditional sense. I mentioned Moon Monday, and she excitedly added that she remembered Moon Monday in her intern science classroom. Her students were to view the moon cycle and its phases at that point of the year. A math teacher used Writing Wednesday, and she said she loved that idea, especially since you do not see a lot of typical writing in a math class.

At the closing of the 47-minute interview, I thanked her again for agreeing to be a participant. I asked her if anything else related came to mind as we were going through the questions. She stated no. I reminded her I would transcribe the interview and send it to her personal address, which is where she chose to have it sent. She asked if I still wanted her TTESS and I said that I did and thanked her for bringing it. She provided one walk-through, one Instructional/Learning Environment Walkthrough, and one Observation - Entire Process, evaluations. She was excited about her final observation TTESS, recalling an Escape Room activity, using real lockers and locker combinations at the school. She said this lesson was one of her favorites, although she was shocked students did not know how to do combinations on lockers. The second time she did the lesson, she reminded them the day before, “right, left skip once, right,” stating they practiced for 10 minutes! The second go-round was so satisfying for them, she mentioned

they got it this time and screamed, “Yeah!” I added the struggle my daughter had with locker combinations and she recanted how these students have a ‘I give up’ attitude, a lack of integrity. Jana tried to encourage them and say, “Do not give up, try harder!” She tried to give them motivation! We said our goodbyes and I left for the next “Starbucks” to complete my third interview.

Kelly

At the time of the study, Kelly was completing her first year of teaching. She said she felt very prepared from her college courses, where she was exposed to lots of types of technologies. Some examples she provided were websites like Kahoot she already knew about, although the more it was discussed in class, she realized there were more websites and other methods of taking in student data. She recalled learning more websites in her teacher preparation program, than what she brought into the courses. The assignments and activities online were something she was proficient in at the onset of the teacher preparation program. However, learning how to use and operate the websites that were introduced, posed a challenge in her own classroom application. Her preference would be to incorporate technology more, although the lack of tools in her school, hindered that. She mentioned teacher preparation programs with more instruction using technology could be beneficial to all educators.

All the social studies and English teachers had iPad and Laptop carts; however, math and science did not have the same opportunity within the classroom technology. In her large district, four iPad carts were available for check out. The challenges were iPad carts were divided between eight or more teachers; therefore, whenever Kelly signed up for carts for review activities online or introducing a new topic, they were not always

available. At the time of the interview, Kelly's school was trying to get a bond passed for every teacher to have their own iPad cart. The bond election was the following day. "I really hope it passes, so I can do more technology like that," she stated as she clapped her hands.[7]

I was curious at what point her students began bringing their own devices from home. She stated seventh graders started coming into class with them, although it's not consistent enough for instruction. Kelly ran into Wi-Fi issues, when trying to use personal devices, and there was zero internet access in her room with devices other than school issued. To emphasize how much she wanted to use technology, she tried asking the students who had cell phones to buddy up. Issues arose with students' phones being able to display quizzes, or screens showing black outs. There was a cell phone policy at her school, where students kept their phones 'out-of-sight.' Therefore, students who chose to bring their phones out-in-sight, had to pay $15 for abusing phone privileges. Kelly viewed iPad as a lesser distraction than cell phones.

Kelly recalled the ease of using iPad carts, with zero issues in technology or lack of technology.

> If one iPad did not work, there were usually 5 -10 extra. There was also an IT (instruction technology) person on campus who would come as soon as I called with an issue; I was very grateful for this. If the bond passed, every teacher would receive and iPad cart of our own - a permanent cart that stayed my room all the time would be exciting. I want to do more with my classes and technology.

---

[7]I looked up her district after the interview and the bond passed!!!

In her school itself there were over 1,300 students, with five other middle schools in the same district. Another school would be built if the bond passed. Her largest class that year was 26 students, which she mentioned being a high number. In her teacher preparation program, she completed her field placement two placement at a large school, although she did not recall her classes being as large as her first year as teacher of record.

During her coursework, she felt she was prepared to use the websites, not just exposed to them, actually learning how to use them. She recalled submitting assignments through our online platform and the different websites used with assignments. Overall, she said that when you are actively involved versus being shown how to do something, the results are positive – teachers needed to provide a model of how it works. Kelly was pleased with the teacher preparation program and felt prepared to go into the classroom, stating it was only the struggle of first year trials.

Kelly put the onus on herself about not using digital literacies as much as she wanted, stating, “It’s just my first year; I am trying to survive!” After this discussion, she mentioned one of her goals for over the next few years was to incorporate more technology. She focused on vocabulary and math with her students, although tying technology and reading into it was hard at times, alluding again to the struggles of first year of teaching. My favorite line I’ve heard about teaching middle level learners was ‘sink or swim.’ When I mentioned that might be what she was feeling, she said that was it!

Referring to classroom interactions, I asked Kelly to label her top two digital literacies in each category: online resources, online interactions, old/new literacies, and technology tools. She asked for clarification of the top two interactions or the top two

interactions of each section of each. I assured her it was however she wanted to address the question. In Table 18, you will see Kelly's top choices of online resources and technology tools.

Table 18

Kelly's classroom interactions

Online Resources	Online Interactions	Old/New Literacies	Technology Tools
Pear Deck			iPad Cart
			Clickers

Note: Kelly's perception of how to answer the question, led to only two categories.

Pear Deck was her top online resource, premium version that her district already purchased. This resource enhanced Power Points to make them interactive. Pear Deck provides surveys, polls, and quizzes to her students. They voted, yes or no to complete an Exit Ticket. Another source she used within Pear Deck was a vocabulary interactive activity called Flashcard Factory. The students worked in pairs with provided premade vocabulary cards; one student made an illustration, and the other student put a definition in their own words, using the iPads. She identified the students were doing the work, which she considered a great resource.

While the districts' main device was the iPad, they did have one set of Clickers per class. This tool was used in her math class for warm-up questions at the beginning of the class period. She provided the question and they clicked on their answer choice. To keep their anonymity, each student used a number instead of their name. Kelly could see what students were answering right away and who might be struggling. The results were immediate which provided a great lead into discussion questions about the topic. Kelly's district used assessment data to drive instruction, at the beginning, middle, and end of the

year. These warm-ups helped to provide her quick feedback on what students needed more guidance and where or if they were struggling.

Kelly's students liked using technology, and it helped her a lot with lessons and planning, therefore she wanted to use it as much as she could. Since she was a math teacher, I was curious about their use of digitally enhanced calculators. Kelly's seventh graders used a hand-held one, although the eighth grade just ordered the TI-Nspire for their students. Seventh graders did not use the calculators on the STAAR test, so the training was not required. However, she was planning to attend the training in the summer, as she would need them for her PreAp classes. She was excited applying her activities with the TI-Nspire calculators. They previously used TI Enforce, which she said was, "a night and day in comparison."

The district offered many trainings on new devices, as well as an IT campus technology person. There was also another person dedicated to creating digital lessons if they provided the TEKS, they were called Technology Integration Specialist (TIS). These TIS representatives come in the classroom, coach you on the digitally enhanced lesson or program, and show the employees how to use them. They came to campuses once a week, along with giving Tech Tip of the Week. Kelly elaborated on what a help this was to her and praised the district for providing this service. "You are not all by yourself trying to do it!" She referred to veteran 'older' teachers that did not know a lot about technology and stated that this dedicated person really helped.

When using online resources, she mentioned she had a few 'go-to' websites that assist her lessons. At the time of the interview, her students were creating a 'dream vacation plan.' Kelly planned several websites for the students to use for research on

pricing hotel, flight, food, etc. Along with researching travel, she was teaching website credibility, which was something she said they had lack of knowledge. Resources she used for instruction was a district purchased curriculum called *Maneuvering the Middle*. The curriculum included notes, packets, and activities, in which her lessons were centered. The activities she used were scavenger hunts, task cards, puzzles, and most of it is interactive on the Promethean board. Manuvering the Middle was the district's adopted curriculum. Kelly could not recall many online resources her students used every day, nevertheless when she had the iPad cart, the students would use online resources. She also added the online resource interaction with the students was her instruction using the Promethean Board with the whole class.

When asked about her students' digital literacies use in the classroom versus home, she elicited about 25% in school, although a lot more at home because of the resources they have there. She made Quizlets to use at home for reviewing topics and she alluded to how good they were about going home to practice, especially her Pre-AP kids. In contrast her discussion about her possible future iPad cart, Kelly encouraged student technology downtime. She recalled Google Classroom that some teachers used on her campus and attempted to use a communication tool discussed in the teacher preparation program, Edmodo, to connect teachers, students, and parents. However, the lack of technology devices limited her students' interaction with these types of tools. "If they do not have access to it every single day, it is really difficult." Depending on the bond

election outcome, she stated she would use either one of those online resource communication tools and wanted to start getting ready this summer.[8]

Kelly rated the following topics regarding students' use of digital literacies from one to three, three being the main usage: teacher instruction, student research, or student presentation. I echoed that she already mentioned something close to this, although I wanted a number to put with it. Without hesitation she stated instruction first, then presentations, and finally research. Kelly reiterated that 'lack of technology devices' as being the reasoning behind her ratings, student research and presentation as lowest. There was consistent use of the Promethean Board when she gave instruction, her Power Points were interactive, and she introduced topics or reviews in different ways. She mentioned she tried grouping, however noticed some students were not engaged.

She borrowed the iPad cart from an English teacher across the hall whenever she did not get on the calendar to check them out. "I cannot plan on using iPads every day; so, spur of the moment activities online that 'pop' up in class, are difficult if there is no digital tool to guide them." I mentioned Quizletlive, since she used Quizlet. Thinking back to how she liked interactive lessons and instruction, I knew Quizletlive, that was mentioned from another participant, would be a great addition to her digital literacies.

Comparing her personal to professional digital literacies use, posited an interesting question to Kelly. I reminded her of the questions and where they derived from - coursework analysis of questions and activities. Also, I wanted to let her know I was interested in what my participants thought they used personally vs. professional and

[8] It was awesome for me to read this and know that the bond passed, I looked on her school's website. I hope she gets to prepare and plan with digital literacies and technology like she set in her goals!

vice versa. I tried not to veer too far into specifics, although I did mention social media, where 75% of students mentioned it as a practice personally and professionally in coursework. Also, I made sure to let her know I wasn't personally attacking her personal digital literacies, it was interesting to me to see what people consider personal versus professional.

Kelly grasped the questions and said yes, she used social media as a personal practice to wind down when she got home, although admitted she tried to pull back some. She scrolled through Facebook and when researching at home, if pop-ups occurred, she used Google to look it up. She paused again, stating, "this is a weird question." I could see Kelly was struggling with her answer, however I waited. Kelly researched things for her classroom on Teachers Pay Teachers (https://www.teacherspayteachers.com/) for math activities, stating how hard it was to keep students interested in math. She reads teacher blogs to see what new behavior management trick was working in other teachers' classrooms and searches social media sites (i.e., Instagram) to establish what classroom activities are working for others, that might work for her students. "Research is constant for me; I cannot turn it off!"

Communication in Kelly's district was through a Facebook page where updates and events were posted to notify parents. She personally used Remind 101 for communication with students and parents for her own classroom tutorials and assignments (i.e., classroom happenings). A code was provided at the beginning of the year to parents and they messaged her through Remind 101 and personal emails. Her district grade book system TEAMS (a communication program in Microsoft) was how she emailed parents about progress reports or report cards and added the grade report

progress form right on the email. Parents do not have to log in, they just click on the link, which Kelly stated was sometimes easier for them.

Kelly used a communication platform for grade reports, called TEAMS. In addition to grade reports, Kelly used TEAMS for upcoming tests and reminders, that sends a message to a distributive list for quicker access to all parents. Many of her students' parents did not take the time to log into their parent portal or they do not know how to use it; when Kelly sent an email through this platform, a link was attached. Parents clicked on this email to see their child's progress.

In addition to the iPad constraint she mentioned several times, Coolmathgames (https://www.coolmathgames.com/) was blocked, which she added "was a good thing." She did not mind her students playing games; however, that seemed to be the most influential site, and since they did not have the devices at home, they chose to get on those constantly. YouTube was used frequently, along with having good WiFi at her school. Kelly's most frustrating issues was iPad access. Data assessments were collected at the beginning, middle, and end of the year, demonstrating levels of students' performance in math. These assessments lasted one or two class periods, usually because of student absences. At one point during the assessments in her class, ten iPads crashed. Kelly called the IT person and they fixed it immediately. This maintenance provided Kelly the much-needed help that she could not bring to her classes. There was a technology building on campus that housed people dedicated to fixing, replacing, and introducing devices and technology. Kelly felt lucky to have those resources and technology support at her school. She reiterated several times about how fortunate she

was with her district's support of technology and providing a support staff (i.e., TIS) to assist their needs. When addressing future teachers, her advice was to "soak it all in!"

> Make sure you are paying attention to what is out there. If you are just sitting there going, 'Oh, that's cool!' and you are not actually writing things down in your teacher preparation program, how it can be utilized? What is great about it? - then you are missing out. You have to go back on your own time and try to figure it out, when you could be learning it right then and there. I feel especially with my teacher preparation program, they were really great about incorporating lessons, to make our own lessons using technology. It worked well, because once you get that hands-on experience of doing it. I felt really prepared.

Kelly and I discussed how quick everything can change, how it was hard to keep up with the newest and the best technology tools. Moreover, her ideas of digital literacies themselves, was an understanding, applying, and responding with the tools. I reminded her about the clickers, and how she made questions where they responded on the clicker, announcing that she 'made the best' of the tool she had, all the while using digital literacies. She booked the iPad cart just that week to research their budget projects. All the printers were down that day, and she could not make copies, therefore that resulted in making a quick quiz on Quizziz of all the components of the project. Instead of wasting the whole day waiting on the printers, she took matter into the hands of the iPad and received results in 20-30 minutes. She could see the color-coded questions students missed and how many missed it, producing immediate data.

Kelly closed with how often times, students asked questions about how to find this or that on the iPad, she speculated infrequent use from the students. She reiterated the need to prepare her students with Google Chrome and how to use credible search engines, perceiving her students go to high school and college. “It is all technology; they are not going to survive if they don’t know how to work it.” Kelly’s interview lasted 36 minutes and I thanked her again, wishing her well in her school, and her new marriage adventure. I shut off the recording devices, packed up my things, and walked to my car.

Three interviews down and three to go! I was very pleased with the progress of the interviewing; however, knowing my time had been altered and losing almost two months meant I needed to keep moving along. Out of everything that I have done so far with this research study, interviewing was my favorite. I was aware how I addressed the participants, since I already knew them, although I had to remind myself to stick to the interview questions once we got started, and not ask something unrelated during the interview. I recognized my own interview ‘voice’ and that I say ‘OK’ a lot, which I was not aware of, especially in conversation. There were other alterations I needed for future interviews, possibly giving participants choice of interviewing via the Web or face-to-face. However, my chair and I discussed how observing the participants would be a better choice, since I already knew them, and we could be on a personal level.

I had a weekend to regroup and travel again, to the North-central part of Texas, to complete my last three interviews, all within 45 minutes of each other. A humorous note, all the participants had classes together at one point in their teacher preparation program, although I do not know if they stayed in touch, except on social media. I wondered if my participants talked to each other often and if so, discussed my contacting them for

participation? Again, these participants are my former students, so I was pleased to see them. The last three interviews occurred on one day.

Kristi

The encounters Kristi had in the teacher preparation program were all positive and she indicated the coursework in my class helped get her familiar with technology. She recalled the activity on a Google Doc, when students worked asynchronously creating literacy definitions and visuals of the vocabulary covered throughout the whole semester. She added what a life saver that was, regarding how much time it saved her in college, being able to work as a group without physically having to meet.

When she started out the year in the high school in the same district, she prepared her students to create a similar Google Doc for presentations. They worked in class together on the document, though texted or chatted on the actual document, when they were working at home. Kristi's district has Google Classroom and were one-to-one with Chromebooks. She used Google forms and created Quizziz for quick feedback on students' lesson success. She praised the Google forms and quick access to the Chromebooks, which students carried from class to class. Kristi discussed how her district assigned all their classes into Google School, allowing her access without needing to enter the students herself, which she saved her hours of work time.

Kristi moved schools in October, changing to a middle school environment. She did not elaborate why there was this move, just that it happened. Google Classroom was a middle level platform, where they turned in everything and where all district information was stored - lesson plans, homeroom information, Power Points from the counselors, and AVID (Advanced Via Individual Determination) activities. Kristi noted the counselors

sent PowerPoints on Monday and Tuesdays, involving different topics to be discussed in homeroom. Sometimes it was a binder check for the students to organize their binder, other times it was information to provide to the students about different events or club activities going on at school. The AVID program at the school provided students activities to complete on Wednesday and Thursdays; they watched CNN 10 or completed a Khan Academy. On Fridays, AVID adopted DEAR (Drop Everything And Read) which she laughed saying, "You can just see how that went." Kristi mentioned her homeroom was crazy at times. Students who were not in her regular math classes knew there was no accountability, "no weight behind study hall." When she "attempted" DEAR the first time she decided to read to them. She chose *Game of Thrones,* half the class talked while the other half tried to listen, she remembered it being a constant struggle. She tried showing YouTube videos on cooking, playing music in the background during their Khan Academy practice, or anything to calm them down. Their homeroom was the first eight minutes in the morning and last 20 minutes of each day. They picked up their Chromebooks in the study hall and returned them before they went home.

When discussing how the teacher preparation program could have prepared her more, she requested extended organization and resource information, which were her leading struggles. She uses Google Classroom for forms and other files; however, Kristi was never taught things like Gradebook within the teacher preparation program. She added more classroom management ideas would have prepared her as well. Her mentor teacher in her field placement one, went to another university and had a whole class dedicated to management. Although she does remember some classroom management activities, she recommended adding a whole class on management to our TPP. Kristi

reflected on her school instruction this year as ‘1/3 teaching and 2/3 classroom management. In her school, students get upset when trying something without success and shut completely down. She stated how well she connected with the students; however, she wanted some more tips and pointers when they are not responding to anything or feeling unsuccessful with lessons.

I recapped how the learning experiences she was having now, hands-on experience in the middle level environment, could be more beneficial than a teacher preparation course. I always discussed my first year as a middle level reading teacher, with my preservice students in my coursework. I was 22, fresh out of college, and had no management whatsoever. She remembered my story and said, “You have been here too!”

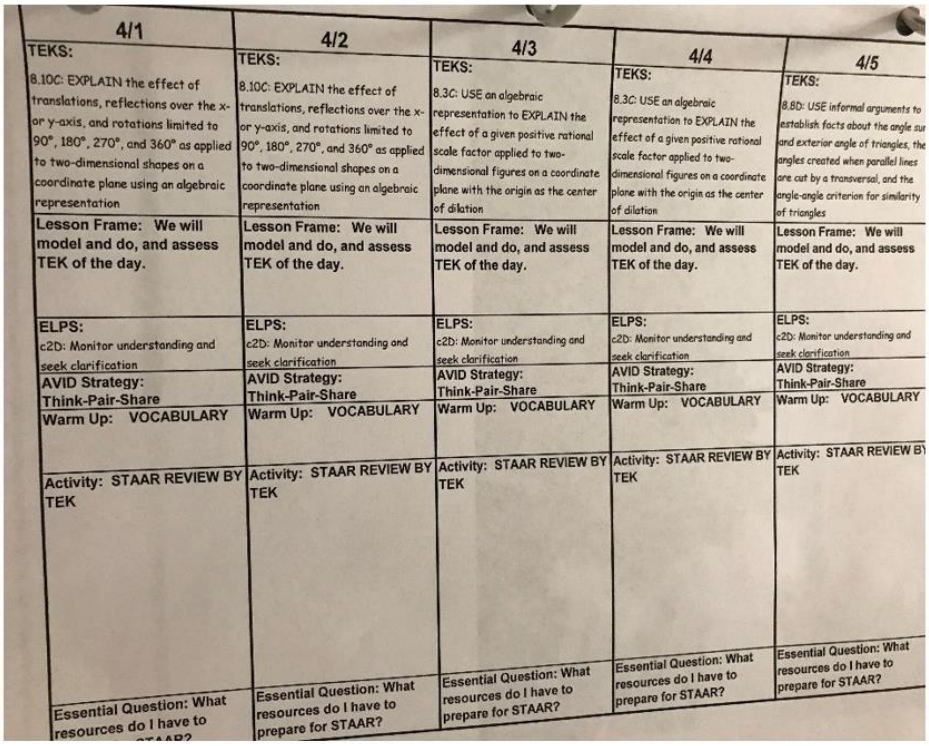
Kristi revealed digital literacies in her classroom interactions with several online resources – Khan Academy, Google Classroom, Imagine Math Facts, DimensionU, and Prodigy. Imagine Math Facts assessed the students at the beginning of the year, then created lesson plans based on their needs. Kristi could create lessons for them, observe the assignments her students are working on, and how much time was spent in Imagine Math Facts. Prodigy provided her students math problems, in a game format, where only successful answers continue the games. DimensionU and Prodigy were more of a supportive resource, therefore, Kristi uses them for her lab classes. Class Kick and Khan Academy were online resources Kristi used to create quizzes for her lesson plans.

Khan Academy created STAAR related questions with the corresponding TEKS (Texas Essential Knowledge and Skills). Kristi was impressed that TEKS was on track with the Khan Academy website, which was perfect during STAAR review. Kristi indicated doing a ‘mock STAAR’ review, the students see the questions sometimes more

than once, however, they need as much exposure as they can get. Therefore, with Khan Academy, the questions are different.

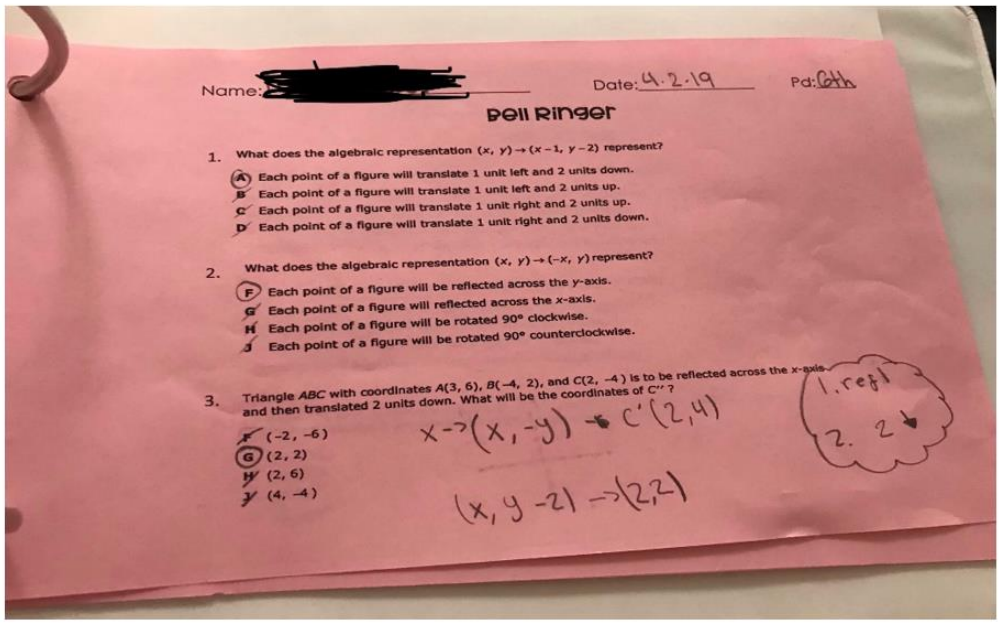
Kristi's district was one-to-one; therefore, every student had their own Chromebook. The district replaced all the projectors with large-screen TVs at the front of each room, she assumed to save on the bulbs. She used her TV to play videos and display notes or lessons, which was hooked up to her computer. These were concepts in her classroom that I had not seen because of interview location choices.

When describing old and new literacies in the classroom, she mentioned a program called AVID. Advancement Via Individual Determination (AVID) was a college readiness program at her school that was designed to assist students in developing necessary skills for college. Kristi provided examples of the toolkit binders and different AVID activities. Figure 20 is an example of Quick Write prompt in the AVID toolkit and Figure 30 represents a student's completed example of a Bell Ringer. She must take pictures of their completed work and turn in the binder every grading cycle.



4/1	4/2	4/3	4/4	4/5
TEKS: 8.10C: EXPLAIN the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation	TEKS: 8.10C: EXPLAIN the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation	TEKS: 8.3C: USE an algebraic representation to EXPLAIN the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation	TEKS: 8.3C: USE an algebraic representation to EXPLAIN the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation	TEKS: 8.8D: USE informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles
Lesson Frame: We will model and do, and assess TEK of the day.	Lesson Frame: We will model and do, and assess TEK of the day.	Lesson Frame: We will model and do, and assess TEK of the day.	Lesson Frame: We will model and do, and assess TEK of the day.	Lesson Frame: We will model and do, and assess TEK of the day.
ELPS: c2D: Monitor understanding and seek clarification	ELPS: c2D: Monitor understanding and seek clarification	ELPS: c2D: Monitor understanding and seek clarification	ELPS: c2D: Monitor understanding and seek clarification	ELPS: c2D: Monitor understanding and seek clarification
AVID Strategy: Think-Pair-Share	AVID Strategy: Think-Pair-Share	AVID Strategy: Think-Pair-Share	AVID Strategy: Think-Pair-Share	AVID Strategy: Think-Pair-Share
Warm Up: VOCABULARY	Warm Up: VOCABULARY	Warm Up: VOCABULARY	Warm Up: VOCABULARY	Warm Up: VOCABULARY
Activity: STAAR REVIEW BY TEK	Activity: STAAR REVIEW BY TEK	Activity: STAAR REVIEW BY TEK	Activity: STAAR REVIEW BY TEK	Activity: STAAR REVIEW BY TEK
Essential Question: What resources do I have to	Essential Question: What resources do I have to prepare for STAAR?	Essential Question: What resources do I have to prepare for STAAR?	Essential Question: What resources do I have to prepare for STAAR?	Essential Question: What resources do I have to prepare for STAAR?

Figure 29. AVID Toolkit Quick Write prompt used in Kristi's distritct. Permission from Kristi to use this was given verbally. This is the one she made up to put into the folder.



Name: [redacted] Date: 4.2.19 Pd: 6th

Bell Ringer

1. What does the algebraic representation $(x, y) \rightarrow (x-1, y-2)$ represent?
   - (A) Each point of a figure will translate 1 unit left and 2 units down.
   - B Each point of a figure will translate 1 unit left and 2 units up.
   - C Each point of a figure will translate 1 unit right and 2 units up.
   - D Each point of a figure will translate 1 unit right and 2 units down.

2. What does the algebraic representation $(x, y) \rightarrow (-x, y)$ represent?
   - (F) Each point of a figure will be reflected across the y-axis.
   - G Each point of a figure will reflected across the x-axis.
   - H Each point of a figure will be rotated 90° clockwise.
   - J Each point of a figure will be rotated 90° counterclockwise.

3. Triangle *ABC* with coordinates *A*(3, 6), *B*(−4, 2), and *C*(2, −4) is to be reflected across the x-axis and then translated 2 units down. What will be the coordinates of C''?
   - F (−2, −6)
   - (G) (2, 2)
   - H (2, 6)
   - J (4, −4)

$x \rightarrow (x, -y) \rightarrow C'(2, 4)$

$(x, y-2) \rightarrow (2, 2)$

1. refl
2. 2 ↓

Figure 30. Bell Ringer student example. Krisit verbally permitted it to be in her information.

Kristi explained they completed a Socratic Seminar and Four Corners activity, similar to the ones coursework and had to take picture to provide information regarding the AVID skill of the week that was implemented in her lesson plan. She mentioned how hard it was to 'prove' Four Corners, so she supplied pictures for the activities in her classroom. Kristi clarified how she liked putting assignments, Quick Writes, and Bell Ringers online in a Google Doc or Class Form; however, she was concerned that her students were not doing the math computations.

> As a math teacher, I know students do not do as well when I give them assignments online, because they try and guess. However, when I print it out on paper, they compute the problem in the empty space. A lot of kids will ask, "Hey, can I have a scratch piece of paper?" When I realized they are not showing their work, I went back to more pencil and paper, because they have space to show their work and I need to know what they are doing.

Kristi was proud that their school was an AVID demonstration school. They showed off their AVID Toolkits to other teachers and educators within the district. Table 19 provides Kristi's classroom in interactions with her students.

Table 19

Krisi's classroom interactions

Online Resources	Online Interactions	Old/New Literacies	Technology Tools
Class Kick	DimensionU Prodigy Imagination Math-Facts	AVID Toolkit	Chromebooks
Khan Academy	Google Classroom Khan Academy	Socrative Seminar	Television/Overhead projector

Note: Classroom interactions of Kristi and her students.

Teachers Pay Teachers and the district's School Net, where the school's resources are housed, are Kristi's 'go-to' online resources she uses for instruction preparation. She altered lessons or made them benefit her own students, since she said students did not learn the same. The team at her school was always providing examples, lesson plans, and activities for the newer teachers, which she said she was thrilled to always have handouts and help-ups! Her math classes used Interactive Notebooks for notetaking, and Kristi described how she altered the notes for her students that were 504 (an anti-discrimination, civil rights statute that requires the needs of students with disabilities to be met as adequately as the needs of the non-disabled are me).

The sixth-grade math honor students used a textbook called Springboard; however, since Kristi moved in the school in October, her students were not provided a copy. Kristi and a colleague pulled out pages and created their own version of lessons from these textbooks. The students were thrilled they did not have to carry those large textbooks around. She had access to their textbook, SpringBoard online, therefore could get to it when creating lessons and planning for students.

When asked about her students' digital literacies at school versus at home, Kristi indicated many students did not have technology like the Chromebooks at home. This

caused problems when she wanted the students to work at school, games would pique their interest. She reiterated a Chromebook cart might be better for each teacher, in their classroom, so the students would not have access to it all day at school. Students did not treat their Chromebooks well and Kristi mentioned there was not an accountability factor for them if they damage them. If they are damaged or lost, the students (or parents) are responsible of paying $500 to the school, at the end of the semester. They threw their backpacks down, the keyboards broke, they left Chromebooks in other classes – these were disruptions that caused Chromebook malfunctions, being 'checked' out at the beginning and checked in at the end of the school day. The students were not allowed to take the Chromebooks home.

Kristi ranked the integration of students using digital literacies in instruction as the highest of her practices, then research, and finally presentations as the last resort. She mentioned math did not have a lot of room for presentations, or that her students did not do much research in math. Teacher instruction was the most interaction with digital literacies. Kristi witnessed students researching in other subjects, like history, in her tutorial classes, although teacher instruction with YouTube videos and other digital literacies was the highest.

Kristi suggested because of the lack of technology at home, some students did not have technology assistance with homework. Most assignments that were homework came back 100% incomplete. "When I assigned homework, it's just me giving them a zero in the gradebook," she shrugged and kind of gave an 'I give up' face. Therefore, she did not assign a lot of homework. She told her seventh-grade honor students about the TI-Nspire calculators and they got excited. "Really, we can use calculators?" they responded in a

shocking tone. The honors students need the calculators to do the actions for the problem, without them, they cannot complete the problem.

During the interview, Kristi confirmed her personal use of digital literacies and technologies were usually related to school; whether in school, in her teacher preparation program, or looking up lesson plan ideas. Personal use involved online shopping and purchasing plane tickets, as well as scrolling social media. The school provided Kristi with a Chromebook and an iPad, which teachers could take home. On her computer at school, Kristi summarized lesson planning, researching, and making resources as her professional practices.

> My personal use has slowed way down since I've started teaching school. This weekend, I was planning for a dance, we literally planned for decorations. We stayed after school on Friday until eight pm. Saturday, we got to here at nine am, then went and got ready to come back and chaperone until nine pm. Then we went out to celebrate and I had my cousin texting me like all Saturday, because she needed advice…She kept texting and I finally told her I did not even see her messages, my cousin finally Snapchatted me. I do not use my phone as much; it is a big change.

When discussing online and face-to-face classroom community platforms, contacting faculty or parents, Kristi declared emails and phone calls were the best connections. She planned documentation for the contact as well. Faculty meetings were face-to-face, however if a teacher had duty or had to miss, these meetings were recorded and posted for the teachers to view at their convenience. Parent conferences consisted of 'Bison Pickup,' that occurred two times a year. Parents could pick up report cards during

Bison Pickup. At that time, they could conference with any teacher. Everyone was lined up in the gym and the parents could discuss their child's progress, or lack of progress. Kristi indicated how lucky she was regarding student behavior; out of one hundred students in her classes, only three were behavior problems. There were no behavior problems at present and she did not foresee any problems with the remaining month of the year.

There were no restrictions that Kristi could recall, regarding technology at her school, declaring that the new technology person in her district was great! The technology person had taught for many years and wanted all students and teachers to have access to anything they needed for instructions and success. The students had access to YouTube, Spotify, and they loved Netflix. Kristi reiterated that she did not like it to be quiet in the classroom, so she would play music from Spotify or listen to podcasts; she thought it helped sooth them and verified it did soothe her.

The school had no cell phone restrictions, unless it became a problem in class. "I gave them a warning the first time, the second time, I took it up, they could get it at the end of the class. The third time "they could get it at the end of the day." The fourth time, the students had to pay $15 to get the of the office.

> The kids walk around Facetiming each other. One time I had kids who were on a field trip and I was standing in my front door. Kids were coming into my class, saying 'Talk, Miss, talk to Melanie.' I'm like, oh hey, how are you? How's your field trip? They'll go on AVID field trips to NBA basketball games or NHL hockey games; I tell them cool and have fun.

> But I'm present with them and their activities, which is extremely personal.

Our last conversation was about addressing future teachers, the same as she was two years previous in her teacher preparation program. The advice she provided was to 'test it out!' Many times, she tried activities with her students and there was a glitch or technology would fail, something just went wrong. Kristi mentioned scrambling for a quick Quizziz or Kahoot that was already created, then realized it was not the right one, the questions she wanted the students to answer were not correct. Kristi confirmed that researching, testing, and using sites or technology tools, before class, was a necessity.

Organization was important to Kristi. She also stressed the importance of tossing something if it did not work. She experienced this and said, "Just because it looks good on paper, it might not work in the classroom." She learned a valuable lesson from other teachers who printed out their papers, lessons, and copies for the whole week. Kristi learned not to print ahead. "Planning is great, although, you do not need to have it all planned out!" Kristi went to school early, got all her work done in the morning; that was how she planned. Kristi printed out what she needed that morning for the day's activities.

I thanked her for the good advice and appreciated her doing the interview. I mentioned I would send her the transcript for member checking in the mail and made sure I had her correct address. She mentioned she was going to teach abroad after the summer, and I was excited for her…possibly another aspect for future research? I packed up my recording devices, made sure I had her consent forms, and placed my interview notes in her folder. I thanked her again a left the school.

Brooke

When asked about digital literacies and how she was prepared in her teacher preparation program, she asked if digital literacies were something like discussions online or reading and writing online. I told her to define it how she would like to, so she chose to use the online platform discussions that prepared her in the program. Brooke recalled the open discussions as useful. If there was a topic she did not understand, she could read someone else's response first, to spark new ideas for herself. The connection she really felt was Twitter. She laughed as she remembered Twitter in her teacher preparation program.

> In my school we are required to sign up for Twitter, which is hilarious because I remember you made us get a Twitter account and we were like 'why do we need a Twitter – why do we need that?' I mean, the district requires us to have one. We do book studies through Twitter, responding through Twitter. There are hashtags in our district we use to talk and communicate with each other across the district - #whatcanwedo? (pseudonym) is our hashtag. They always want to know, they encouraged us to advertise what we are doing in our classroom. They want it to be like a story board. They say, 'If we do not write our own story, someone is going to write it for us.' So, sharing and communicating is done through Twitter, like in your class.

Another digital literacy connection from the program that prepared her for teaching was learning about Google Classroom – including Google Docs and Google Slides. The district adopted Google Classroom and was transitioning to Canvas the

following year. In both online platforms, students discussed a prompt she created, then responded to classmates about their posts. All of the students' work was turned in through Google Classroom, especially if it was digital, which she found closest to her teaching style. Unfortunately, Brooke did not realize the convenience of turning things online until a few months into her first year, although she did it now. Lesson plans were turned in digitally, similar to how they were turned in during the teacher preparation program. Administrators were able to go in and look up plans for walkthroughs and formal evaluations of the TTESS. The administrators pulled up the teachers' lesson plans from the digital drives and made sure the "I-will" and "I-can" statements were present when teaching. Brooke informed me her principal did not want to share her TTESS, I assured her that was fine, either way, it would not alter the interview.

Brooke's classes completed digital reviews with Gimkit, similar to Kahoot, which we completed in coursework. GimKit was a game where they earn 'money' when answering questions correctly. It involved more than just winning a game – students have choices of kicking someone off or freezing them, all for correctly answered questions. She liked that it was more interactive than Kahoot. The teachers and students all used Pear Deck, for engaging presentations and responding to peers.

> The district wants every student to be 'future ready.' One of those (i.e., Pear Deck) is part of the selling points; everything is technology and it is a tool that should be used. To advance learning and for them to take advantage of their own learning…they like us to use all the technology, when we can. I do not feel like I'll get in trouble if I do not use it every lesson, but we're given so many resources, it would be silly not to. It's so

> much easier, integrative, and the kids really enjoy whenever, vs. me lecturing or giving them a packet. I put myself to sleep – seriously!

As much as she enjoying teaching using digital literacies and technology, Brooke had a hard time keeping up with the pace. She mentioned that the way I taught my coursework was taught to be used in a meaningful way. Brooke would like to have experienced that teaching with more resources and different outlets that were available. Once she was employed in her district, she had to adapt to their technologies and digital literacy ways. Brooke currently does not use Google Drive or Pear Deck. In other words, she was adjusting to her first teaching semester (i.e., lesson plans, students, meetings) and learning the districts' technology practices at the same time.

That brought an idea to my head for future lessons; if I could create an assignment to research a school in the area where preservice teachers might like to teach, they could find out what digital literacies and technologies used in that district and could be responsible for in their future classroom. Brooke considered that assignment for preservice students worthy of completing the first day! She recalled how overwhelming the first part of the school year was, when she was trying to learn everything, (i.e., taking attendance, lesson plan uploading, etc.).

Brooke enjoyed her student teaching semester in a district close to where she was presently teaching. She learned different technology practices in that district, as well as in her teacher preparation program. Conversely, technology intimidated Brooke. "If I do not know the ins and outs, I don't want to do it, which hasn't always proven to be the best way to do things." Brooke referred to herself as a perfectionist and wanted to take risks with the rewards being meaningful, engaging, and digitally driven lessons for her

students. Unless it was taught to her in the teacher preparation program or in her student teaching semester, Brooke felt overwhelmed at trying to play catch-up with technology. She was thrilled when she found out about the districts' use of Twitter! The students did not use it, although that was something she wants to change for her future classes.

When asked about her classroom interactions, she listed Twitter and Remind as her top two online interactions. Communication with students and parents was important for classroom management. The Remind app blocked phone numbers, therefore, teachers could send announcements and parents could respond, without a phone number. She laughed and mentioned it was like Facebook, parents can 'like' or 'laugh' at a message. Her top online resources used in the classroom were News ELA for articles and comprehension questions. She bragged on her colleagues who helped her get set up with online resources, she felt she just did not have the time to set up what was initially needed.

Brooke's campus was not a one-to-one laptop/device campus, although the campus was moving closer to that ratio. Top online tools at her disposal were Chromebooks carts to check out, "old-school" laptops, iPad, and iPods. She laughed and stated sarcastically how the kids 'love to use this old thing,' referring to the iPods. Her classes continuously frequented the 'old-fashioned' computer labs when the carts or other technology tools were not available.

Describing the old and new literacies, Brooke determined to use as much writing (i.e., pen and paper) in her room as possible, to decompress from technology tools. The students responded to face-to-face discussions through Exit Tickets and Google forms with quizzes, although those were digital. Many of her students were without a personal

device, therefore unless she reserved a technology tool cart, they read, wrote and responded on paper. For lesson planning, the district supplied them with curriculum activities, although she supplemented lessons with videos from YouTube called Powtoon. These educational, 1-2-minute videos assisted Brooke in creating visual components of her lessons. Grammarly was another video outlet that provided her students with visual representation of a topic, at the students' disposal, in Google Classroom, at school or at home. Table 20 provides information on Brooke's classroom interactions.

Table 20

Brooke's classroom interactions.

Online Resources	Online Interactions	Old/New Literacies	Technology Tools
News ELA	Twitter	Google Forms	Chromebooks
Viewpure	Remind 101	Pen/Paper	'Old-school Laptops'
Teachers Pay Teachers		Escape Room- Task Cards	iPads/Ipods

Note: Classroom interactions of students in Brooke's classroom.

Brooke deduced the time her students spent on digital literacies and home was minimal, compared to that at school. She knew the technology tools were in high demand because the carts were always checked out. She pleaded for her students to go home and work on lessons digitally and come back to school with some cool video or something on School House Rock. However, she laughingly mentioned, that never happened.

The highest integration of students' digital literacies Brooke stated was in their research. The second student-centered digital literacy interaction was presentations. Finally, instruction Brooke felt the least amount of time was spent on digital literacies. Brooke expressed how much an assignment called Book Snaps, mimicking SnapChat, really spoke to her students. They were provided rubrics and graded point checks as

students created their ‘First Impressions’ from the literature circle novels (i.e., another teacher preparation program activity). The teachers provided everything they needed to be successful with the Book Snaps. This activity replaced students’ written opinion of what they liked about the book. Brooke was animated when describing their creations – Google Slides with bitmojis and emojis to help reproduce their first impressions, all digital and all very creative.

Brooke loved reading the novels her students were reading – *The Outsiders, The Downsiders, The True Confessions of Charlotte Doyle, And Then There Were None.* She proudly supported her students’ reading choices by displaying a sign outside her classroom stating: “This is what Ms. Brooke is reading.” However, she sadly mentioned how hard it was to just sit and read a book, because she never had time. The sign had not been changed since December (it was May). I encouraged her to not give up on it, especially since she loved reading. I showed her my list of books to read, whenever my degree was finished; the list is very long! In addition to those novels, she added *Drum, Girls, and Dangerous Pie, Notes from a Midnight Driver,* and *Seedfolks* as some of her students’ favorites.

The students in seventh grade ILA were involved in an Insta-Book project, where each day there are activities for the book they are reading; however, they posted it with a hashtag, like Instagram. Brooke provided an example of a comparison to MCN (Man Crush Monday), #MainCharacterMonday. She laughingly stated, “The students just roll their eyes, like ‘are you serious?’ although the teachers got a kick out of it!”

Brooke contrasted her personal and professional digital literacies as separate entities. She had a school Twitter to promote classroom happenings and activities,

although she would rather get on Twitter or Facebook for personal reasons. She did not remember a connection of them, personally and professionally, while in coursework, or now in present time. Brooke loved to online shop and do research. However, when mentioning her research interests, she related them to school; to create engaging lessons and activities for her students. Brooke corrected herself stating how those research interests do compare to each other, that her personal interactions with digital literacies are connected professionally. She reprimanded herself for wanting to use social media on a more personal level, although she liked how the school displayed their classroom activities and goings on with Twitter.

When interviewed about face-to-face or online classroom community platforms, Brooke confirmed they used Remind 101 to make announcements and contact parents. She used school emails and mentioned a few of her parents were on Google Classroom. Brooke met with her team – science, math, ILA, history – once a day and had a separate conference, where she met with seventh grade ILA. Wednesdays were administration meetings that included updates, students with behavioral or academic problems, and anything they needed to know about the week and school. Her school had staff meetings, although she inferred they must not be often since she could not remember when they occurred. The principal communicated with the staff by sending out Friday Forecasts, which sent reminders or forms that need to be filled out for the following week. The last communication platform Brooke mentioned was the job embedded PD (Professional Development) that was posted in Google Classroom. This saved hours and hours of time in the summer for teachers to complete professional development digitally, instead of actual face-to-face time in a building or at a conference.

The largest restriction Brooke faced with digital literacies or technology practices within the district was the one-to-one laptop initiatives, such as signing up for iPad cart time. Brooke emphasized that social media was blocked, and YouTube videos were often not available. She found a way to work around that, by using ViewPure. These videos are from YouTube and have been 'decluttered' for teachers and students. Brooke's mind went back to online resources, wanting me to add, Teachers Pay Teachers. Brooke used these online resources for lesson planning and instruction. Other digital literacies she mentioned, as she reflected on videos, were Task Cards and Escape Rooms. Brooke speculated that she got off track and asked if we were discussing restrictions? I assured her that I added those online resources to her digital literacies chart and agreed that we were discussion restrictions. Again, she recalled YouTube being blocked on occasion and possibly Amazon. This was a point I realized some of my interview questions overlapped and could be combined to fewer questions, with more thoughtful answers.

When interviewed about addressing future teachers (i.e., preservice teachers in their teacher preparation program) preparing for teaching with digital literacies, Brooke exclaimed many times, "Embrace it, embrace it all." Brooke elaborated about be open to everything, not to shut down in the aspects of technology and digital education. She called it "an opportunity to be in a community with your school, collaborating with other people and student discussions. Embrace it; technology is not going anywhere." Furthermore, Brooke mentioned how veteran teachers in her school frowned at Twitter when it was introduced in their district. Brooke reiterated that teachers needed to know that it is for the better of the school, showing how they are collaborating, and everyone should be on board with technology.

Brooke thought back to when I introduced Twitter in our class. She recalled everyone groaning and saying they did not want another social media account. Brooke confirmed that districts were using it and I should keep introducing it and how Twitter could be a great online resource. Her district had a hashtag (#) trophy that was passed around between teachers, for whomever Tweeted the most in one month. Sadly, Brooke said she did not receive the trophy this year, although she was aiming for it next year. Her districts' hashtag was #whatcanwedo?

I told her how much I appreciated her help and her discussions about digital literacies in her own classroom, as well as how much the district embraced it. I assured her that many districts are not all on the same page, she said she knew that and knew she was lucky. Overall, Brooke thought she mentioned good ideas; however, felt she did not think she was much help with my study. She was exasperated that she was tired all of the time and noted that teaching was hard. I assured her whatever she said was useful, because it was her thoughts and ideas. Furthermore, I offered thoughts at how to stay organized and sometimes, just let the grades wait. Brooke loved her mentor at the school and praised her ILA department, who supported her in all teaching and personal aspects (i.e., she was getting married in two weeks. There were ten middle schools in Brooke's district, her school being only four or five years old. All in all, it was a very large district, having over one thousand new hires this year, Brooke being one of them**.**

Betsy

When asked about her teacher preparation program and how it prepared her for using digital literacies in coursework, Betsy immediately talked about how it was very helpful to already have had background knowledge of skills needed with technology.

Writing papers and doing assignments was easier for her, because she was able to organize herself digitally. Betsy described how this formalized greatly into her teaching. Her district had a one-to-one ratio of students with the iPad; therefore, Betsy was teaching those organizational skills to her learners, on the iPad and with digital homework, access, and digital turn it. On a side note, Betsy was the only one of my participants that called her students 'learners;' the other participants used 'kids' or 'students.'

Betsy established a social interaction environment for her students, teaching them what was appropriate of online school platforms and other forms of social media. She compared the students' use of iPads to that of them using a spiral and pen. The district provided many apps for the students to use for notes and information intake, as well as to share information. Betsy complimented her teacher preparation program, especially my coursework.

> We talked a great deal in our teacher preparation program about how activities don't really change when they become digital. It's just a different platform or it's a different device that is in your hand, rather than a piece of paper. I think that is really hard for learners at the middle level, to wrap their brains around, because a device has mostly just been for fun. It's teaching them, that the device is for learning and yes, you are going to collaborate with the device. But that doesn't mean you are goofing off and taking funny pictures, which they do! They'll act like they have blogs on their school iPad. I just tell them, 'good for you!'

During coursework, Betsy remembered having an easy time of transitioning from viewing digital literacies and technology as a student, to a future teacher. She spent all four years of high school in the same district where she was presently teaching. As a result, she already had that transition period, her junior year when the district rolled out the iPad. Betsy was also engaged in Ready-Set-Teach, in which her transition as a learner was occurring in a sub-educator atmosphere. She recalled several of her peers in my previous course who struggled with the student-to-teacher transition. Consequently, this caused Betsy some struggles in the group setting, working on a lesson plan project. She would remind everyone in the group, "Ok, let's get off Netflix and get back to this Google Doc." Betsy alluded to her peers having a harder transitioning period than herself, she already made that transition of using digital literacies for her future classroom.

In Betsy's discussion about one-to-one iPads, she stated they are checked out to learners their sixth-grade year, with a school barcode. The charger and iPad have a barcode; everything gets scanned and linked to their school ID in their first year at the middle school. Throughout the year, the learners were allowed to take the iPad home. However, if they got damaged or lost, the paperwork was filled out and the learner was responsible for paying for damages. The learners were given the responsibility of charging the iPad and having them ready for classes, just like preparing notes for class. They also had the option of signing out their iPad for the summer.

Betsy was very adamant about the importance of the technology tool for notes and class activities with her learners. The district where she was working at the time of the interview had an in-district app store called Self-Service. This allowed students to work

with apps for school purposes. The district discouraged uploading apps outside of this venue, because the one adopted were already paid by the district.

One of Betsy's students used the iPad at home, for a STEM assignment. It was a Hack-a-Thon at the American Airlines center for young girls in STEM. Betsy indicated the student created a finance app, using the Self-Service app store through the district. Betsy saw the project, once school started, however the student had been working on it the summer previous to Betsy start of teaching. She admitted how satisfying it was to observe the students using the device in their free time, to pursue their personal interests, all the time relating it back- to-school.

The learners were not provided keyboards, although they could purchase cases with keyboards on their own. The staff were provided iPad with Apple pencils, however not keyboards. This proved very frustrating for Betsy and her learners, "We just want to type it, not write with our fingers." The district provided rewards for class prizes for learners, such as a stylus, which might not be purchased themselves. Figures 31 diplays an example of the type of Stylus Betsy used.

Figure 31. Stylus.

Another digital literacies' practice Betsy recalled from her teacher preparation program, which she remembered learning in class, as an Exit Ticket. She used those and Socratic Seminar frequently in her classes, which were beneficial to her as a teacher to collect quick data. Betsy's district stressed gathering data for immediate implementation into classroom lessons. Coincidentally, these strategies and the importance of data collection, were learned in my classes; I was glad that she reported the used them often. She also implemented Quizlet, Quizletlive, and Quizziz, to expedite data collection (i.e., another coursework teaching).

Betsy surmised her brain was geared for technology integration in her lesson plans, since reemphasizing where she was using technology on the lesson plans created in my course. She considered knowing a digital literacy skill she needed to teach or what app to model for her learners, which was very helpful moving into a district that was heavy in a digital classroom. She laughingly stated how somethings technology went terribly wrong, because of her lack of modeling, "That went terribly wrong, I'll have to fix that tomorrow."

In a similar manner to Jana, Betsy mentioned learning the districts digital literacies and technology tools before entering the district as a teacher, would be beneficial. She did not foresee how she could learn everything she needed to know, in her teacher preparation program. In summation, she thought organizing a course digitally, as she learned from D2L, she could create a mini course that might include units on multiplying fractions. Similarly, a week-to-week resource unit on graphing, in an online platform, such as Schoology. She inferred this type of teaching could be considered a

‘culture shift;’ learning what a teacher was applying and tried it herself, determining what worked best for her teaching style.

Another aspect of the teacher preparation program that would have been helpful, was stressing classroom expectations with technology. Betsy knew what technology was being introduced; then again, a full plan that stressed the importance, the WHY, and expectations of the device, might have been beneficial. However, if a school was not a digital school district, that importance level could be lower. An example she provided, included how to turn in homework digitally, which was timestamped; the communicating and creating aspect of technology usage, was important. Betsy ascertained modeling how to turn in a hard copy of homework was much easier than a digital turn-in. Her learners did not understand that teachers could see when they turned in assignments, at the exact time. “Making us aware of that being a new element in a classroom,” Betsy said would be very helpful.

Betsy discussed her lack of knowledge of digital paperwork, so adding that to the teacher preparation program would benefit everyone, especially for job applications. She mentioned districts want contracts signed digitally through email. At the beginning of her first contract negotiation, she laughed, “Did I do that correctly? Do I still have a job?” Betsy would have felt more comfortable knowing how to digitally sign a contract or form. She did learn it on her own. It would also benefit her teacher profile, being able to send forms home digitally and instruct the parents on how to digitally sign them.

Betsy’s final thoughts on teacher preparation incorporations could have included more aspects of technology differentiation. The apps were introduced, however she conferred there were accessibility features of technology which she was unaware. Betsy’s

example was text-to-speech in a Google Document, focusing more on the app itself, instead of the access that comes with the app. Other apps discussed were ones that read to you – Motoread, Speech Central, and Audio book maker, which she thought would benefit ELA.

When interviewed about classroom interactions, Betsy discussed her online interactions were mostly Google apps – Docs, Slides, Forms. Digital updates were also used campus-wide, for reminders of tests, Schoolology calendar for dates, and verbal face-to-face discussions. Homework was submitted online, including a feedback loop for Betsy to review questions and make comments to her students. An example follows: "Hey, #12, remember it's going to look like example three from our notes today. So how about you go check that and rework it and resubmit." Betsy loved the fact that she could interact in the feedback loop with her students, making sure they were on the right track on being successful with assignments. She recognized her learners' frustrations in class; however, many did not voice them. This feedback gave them the opportunity to ask questions when they did not understand a concept. In contrast, Betsy did not enjoy the emails she received at nine pm, when students were online asking her questions. This was a concern she was going to address with her team – when do we shut it down?

Online tools at Betsy's disposal were iPad (i.e., one-to-one), Schoolology, emails, and a Smartboard. She sent weekly emails to parents and learners that put the week in perspective. Mastery Connect (https://www.masteryconnect.com/) was a tool that was used by the entire district. This website aligned assessments and questions to standards for the learners. It collected the learners' data all year, for the teachers to view; what

standards the students have not mastered, place learners in small group extensions. All teachers had projectors and MacBooks, which Betsy used every day.

Along with feedback regarding old and new literacies – speaking, listening, and viewing - Betsy discovered a new literacy within the iPad - Screen Recording. “I record myself in a video, how the learners would solve a problem similar the one they are working on. It’s really easy and can be made in 30 seconds,” which she proclaimed was very beneficial for her students. Betsy modeled digital portfolios for her learners, not only using the system and website, but explaining that it followed the learners throughout high school and into the next phase. She reminded them to use complete sentences and use spell check. Betsy summarized how the digital portfolios were used for quick video reflections of the lessons and presentations her learners would create to share with the class. She made certain that she mentioned how much creating the learners did in her class – this was key in her mind describing digital literacies.

Betsy explained an example of new literacies with her learners involving problem-solving and inferring within the extension groups. Betsy provided Three-Act task videos for problem solving. The learners used math skills to answer inference questions involving in-direct answers. These three acts involved (a) discussion of the problem, listing what was happening and what they might need; (b) more information in the second act; then (c) what was happening in the video. These Three-Act tasks were performed by the learners who needed extra extensions on a lesson. Online resources that Betsy used with her learners varied from IXL (i.e., a competitive practice game), to Macinvia, a database system they accessed through the library. She went on to describe another project for the learners through their “Amazing librarian!”

> Macinvia is used through our library system. We did for example a College Pennant Project, where we talked about paying for college. They got to pick their college; this is how much it costs. If you have this much as your family allowance or amount that they're going to give you, and then this is your scholarship, and the this is your loans. How much would you need in loans? If there were your interest rate on loans after 10 years, how much would you really be paying for college? We worked with the librarian to create a group in MACKNIVIA that was specific to our projects. So, the learners did not have to go in and search for colleges; it was very precise and directed and we've done that with our librarian on all of our projects.

Betsy mentioned another project with hot air balloons. She stated the learners created the hot air balloons to determine the typical size. The learners were blown away about their height and width. Her learners came back to class after attending a hot air balloon festival shocked about how big the balloons really were, compared to the ones they built in class. Overall, Table 21 provides the digital realm of how Betsy interacts within the school, the parents, and learners in the community.

Table 21

Betsy's classroom interactions

Online Resources	Online Interactions	Old/New Literacies	Technology Tools
Google	Google Forms	Screen Recorder	iPads
IXL	Digital Updates	Digital Portfolio	Schoology
Mackinvia	Feedback Loop	Three Act Tasks	Emails, Smartboard,
			Mastery Connect Projectors MacBook

Notes: Betsy had many examples of classroom interactions in her classes of all four categories.

Apart from classroom interactions, online resources Betsy used for to prepare for instruction included the district's UBD (Understanding by Design) system. The UBD houses the district's curriculum, in which teachers have full access. Betsy uses YouTube videos for instruction and Notability to download PDFs for CLOZE-type notes for her learners. The teachers create these notes at the beginning of the year and the learners create their digital math folders, including assignments and notes.

Betsy's learners used Notability for their interactive Math Folders, similar to what she learned in coursework (i.e., Livebinders,) although it was not uploading papers into the binder, it was creating their own notes, changing the fonts, and downloading the practice sheets to work out the problems. Notability was similar to a composition notebook; however, Betsy indicated everything was digital. The teachers used it to outline the STAAR review as well. They created modules the learners completed at a self-paced rate. Figure 32 overrides an example of some of the notes Betsy's learners take in her classroom.

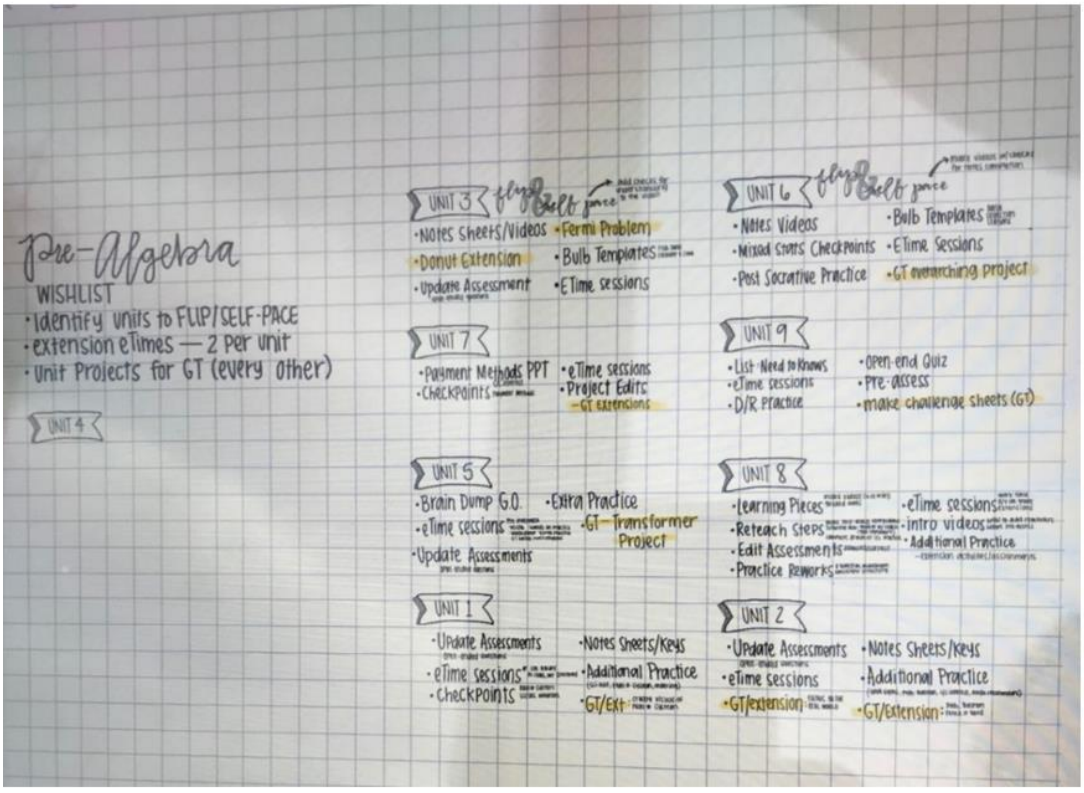


Figure 32. Student created Notability notes for student's math activities in Betsy's classroom.

While entertaining the idea of online resources, Betsy determined her learners spent an extensive amount of time on digital literacies at school. Every classroom had warm-ups on the iPad, discussion responses were digitally enhanced, and Notability questions were answered daily. The creating learners achieved and recorded homework and notes through Schoology and Notability, these were digital literacies Betsy identified in her classes. As far as the amount of time spent at home with digital literacies, Betsy believed they went to their after-school activities first, then spent a lot of their evening online doing classwork and investigating social media. Her conclusion was that a surmountable amount of time was spent online, consequently she asked, "Are they being healthy learners with the device or border-line addicted to it?"

Betsy compared the district's digital citizenship application to that of DARE (Drug Abuse Resistance Education). The comparison stemmed from the initial interest in everyone was on board with teaching the learners to be digital citizens, just as DARE stressed "Don't Do Drugs." This generation has grown up with Facebook and social media, Betsy reiterated they hear all the time, "You need to be smart, need to be online smart." Betsy was involved in the District Improvement Committee to re-evaluate the digital citizenship aspect for the success of the learners, investigating their use of technology and the time to decompress from it. Betsy introduced the committees' battle cry regarding technology: "We are asking you to use technology all the time at school, so we're kind of asking to you to take those breaks at home; go outside and rest your eyes from the screen and all these things."

As Betsy was discussing digital citizenship, I recalled a book I read in my doctoral courses. I mentioned the title to her – *Grown Up Digital,* by Don Tapscott. It was written in 2009, however, I thought that it had some great information about digital learners I thought she could take back to the committee. She felt her district was successful in teaching learners to be successful with technology and digital literacies, however to an extent of almost pushing an addiction for some of them. Betsy attested her students' response, "My phone needs to be with me, my iPad needs to be with me." She felt it was almost a losing battle, validating that she saw parents, sometimes even herself, on their phone all the time. She recognized everyone needed a screen break, although it never happened. At the time of the interview, the elementary schools were focused on social-emotional learning, then continuing the same in the middle and high school levels. Betsy confirmed the district was planning two professional development conferences for

the whole district – Digital Literacy & Citizenship and Social-Emotional learning. She was pleased to say that all teachers in her school have a passion for the students and want them to be successful and healthy digital learners.

When listing her students' digital literacies integrations, Betsy chose research as the least amount of interaction in the classroom, presentations as the second, then finally, the highest interaction being instruction. Betsy cited math did not have a lot of room for research, other than the students just wanted the numbers. For example, with the hot air balloon project, the learners did not know what reasonable size the balloons were, therefore she asked them to do the research. The learners just wanted the numbers handed-out to them. Betsy alluded that the ELA teacher across the hall had the same issues with research, learners did not know how to research properly.

Teachers in the math department were devoted to teaching learners how to make claims, find evidence, and then reason out that evidence, which she considered a great start to learning research. In her classroom, learners created products, which Betsy interpreted as meaning presentation, not just standing in the front of the room presenting a product. The highest interaction Betsy summarized was instruction. After she talked about providing a unit her class as self-paced, where students got instruction through teacher-made videos and documents, she switched instruction as second, then presentation as the highest. The teachers used digital tools, however felt that the instruction was more 'old-school,' Additionally, Betsy added 'old-school' being necessary in some instruction, although she saw growth opportunity in instruction using digital literacies.

Betsy speculated she had a stronger hold and understanding with professional digital literacies, rather than her personal practices. Research-based answers drove her teaching, not her personal life. Betsy proclaimed deciding where to eat or go to the movie, did not need to be research-based. She referred to being 'old-school' again, regarding her personal life, "and I love paper." Betsy likes to read actual books, not online books, which gave her headaches. I regarded myself as 'old-school' as well, although liked the convenience of having large, heavy textbooks online, rather that carrying them around. She was ecstatic about receiving a $5 gift card to the school Book Fair and was going to buy a book.

Together with her professional digital literacies' application, her personal digital literacies have gained a positive impact. She discovered an awareness of how to interact on social media and how to introduce her learners to appropriate interactions. She observed her learners during passing periods Snapchatting each other or talking on their phones. "That looks ridiculous, so I feel less of a need to do that too." We discussed how to turn off the Snapchat 'find a friend' on the app. She mentioned it was 'Ghosty' and I asked her to show me how. Betsy explained she did not need someone in high school, knowing her location, and that her learners were aware of the negative aspect of knowing where their friends are, always. She alluded to the fact that parents would call or text in the middle of the day; "Don't you want your children to learn?"

The phones were a constant battle and the committee she is involved with is trying to decide expectations of phone use and proper school phone use. I admitted my guilt about texting my own daughter during the day, although we discussed that she only answered me at lunch, if I needed a response back. According to the school policy,

phones are banned in the classroom and bathroom, however, they can use them in the hallway. “You didn’t miss a whole bunch in 45 minutes, you’re fine; the world didn’t end in that time,” Betsy stated as she observes her students in the hallway, ‘jonesing’ for their phones.

In the hope to describe her extensive online communication platforms, Betsy went into detail about Schoology. Her learners were grouped according to classes, although she had access to specific teacher groups. Digital Literacy Coaches (DLC) in her district created a course about learning digital classrooms with videos and modules to work through and receive professional development credit. An example of a digital classroom video was how to use an app in classroom instruction and student creation. These tech trainers (i.e., DLCs) were assigned to each campus and worked together to create these courses for educators to apply in their own coursework. At the same time, her face-to-face communication platforms included PTO (Parent Teacher Organization) and Tiger Climate. She described Tiger Climate as parent-led meetings involving community building activities with parents and learners, relating back to what learners were creating in school.

Committees meetings and data meetings were also face-to-face. Betsy’s team met regularly with the assistant principal and counselors, discussing weekly data testing scores and learner concerns. The data scores guided the teachers in the direction of the learners’ needs and next steps. Behavior concerns are also discussed during these meetings and what needs to be addressed regarding learners’ concerns. Other face-to-face communities were school board meetings, Key Notes for Community (i.e., a platform discussing issues involving school learners today). One if the issues that was discussed

was vaping and the harmful effects to children. Police departments sent representatives to the school during Key Notes for Community to educate the public on the effects of vaping, the first to meeting was for teachers and then parents and learners were included. She felt very informed after this community summit and as a result, concluded that she could visit with parents about concerns with their children and vaping.

In the hope that the district was the 'biggest and best' regarding technology, the district bought multiple apps and software programs for their teachers and learners. Betsy was encouraged about these purchases, although, discouraged that some apps the teachers and learners needed were not available because. "That is a big challenge for the digital classroom," she stated, regarding an example of the purchased social networking service and virtual learning environment, Schoology. When students took a pre-assessment on a quiz and made a 100, they moved through all the practices in the module, instead of skipping to the next module. The solution for this issue was to find non-digital solutions when the digital solutions were not working for the needs of her learners. Betsy spoke passionately about having a digital classroom, introducing a "flipped-like" unit with her gifted and talented learners. Again, she stated apps and non-digital solutions were the most restrictions.

> My GT classes get bored with notes, so I was like, fine we are going to flip it because you guys are tuning me out. There is a way you can pause the video and give them questions, like at checkpoints. 'Oh, you didn't understand that section, let's go back and try again.' It also keeps them from just sliding to the end of the video. However, those Apps required proof of age, some of our learners are 12, rather than 13; or they are 13 not

14. It was not going to work, so “I’ll guess I’ll trust you to do it on your own. I guess if you are not watching the videos, you are not going to do as well.”

To conclude, Betsy’s advice to future preservice and inservice teachers was to consider options without technology, it was just that simple. She felt she got so bogged down in the teacher preparation program coursework with finding the right digital resource that the lesson needed; trying to figure out what technology she wanted to use, instead of creating a structure for the lesson. Betsy validated that fact by stressing the importance of starting with an organization of the information and the delivery of the lesson. After that was in place, then decide what technology and digital literacies to use. Betsy used an example of making at 30-second video to watch on the iPad when they entered the classroom. Another example was creating an Exit Slip, which she turned digital for immediate feedback, possibly a Socratic Student assessment. She suggested to try small changes first, instead of being overwhelmed with the plethora of options.

Betsy considered herself an older Millennial, who had become desensitized to the importance of digital citizenship. She wanted to be mindful of making that adult step in acknowledging the importance of instilling digital citizenship into her learners, not just something she heard from her parents and practiced in her own life. Putting something on social media would affect you now, and 20 years down the road. In her teacher preparation program, she set those boundaries early, making her social media accounts private from the learners in her field placement settings. When she entered her first classroom, those boundaries had already been established, acknowledging the importance of planning for those next steps regarding technology in your own classroom. This was a

priority for Betsy, being prepared for all students to have phones in the school and to protect herself, as well as her learners.

Chapter Summary

Chapter VIII provided the case-by-case analysis of my participants' responses in their interviews. Figures and tables provide visuals of participants' technology tools, digital interactions, and online resources applied in their classrooms. Several of these examples were ones learned in their teacher preparation program. Chapter IX displays the cross-case analysis where I compare and contrast themes.

CHAPTER IX

Cross Case Analysis of Six Participants

Chapter Overview

After comparing first and second cycle coding in thematic analysis, keywords-in-context analysis, and word count analysis, four prominent themes transpired, teacher: a) survival, b) activities, c) goals, and d) tools. In this chapter, I compare and contrast these themes that emerged during my cross-case analysis, which was (a) community (i.e., students, teachers, parents, etc.); (b) technology (i.e., calculators, iPad, etc.); (c) environment (i.e., personal, professional, work, home): and (d) literacies (i.e., digital, old, new). This is represented in Figures 33 and 34. All participants shared similar beliefs about survival in their first year as teachers, activities within instruction and planning, goals for the future use *of* digital literacies, and technology tools for their present and future classrooms. There were also differences between these four themes, stemming from their differences in age of students, subjects taught, and district's availability.

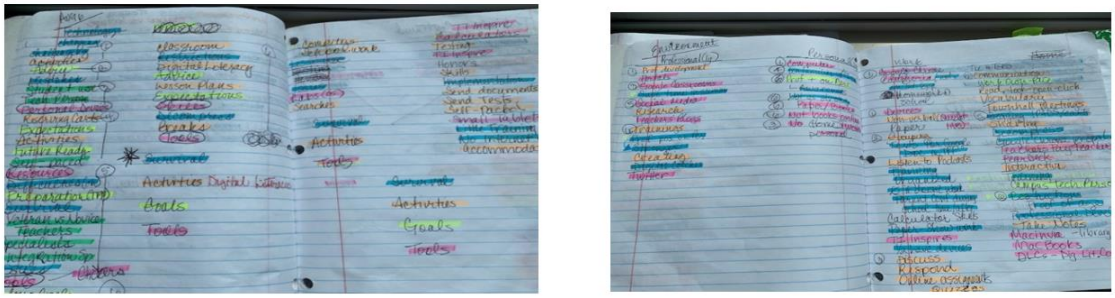


Figure 33. Subthemes in my written journal.

Figure 34. Last cycle themes and subthemes on post it notes.

Community

Survival

When combining the terms for community - students, parents, teachers, kids – several terms appeared regarding survival throughout the interviews. All teachers (i.e., participants) mentioned convenience and support as survival techniques for them, as well as their students. They observed students monitoring their technology usage with teacher and parent support and how personal devices offered unlimited opportunities for online activities and educational instruction. If the district posed responsibility for the students keeping their iPad or Chromebooks on their person, challenges arose. Those students who were issued personal devices at school, often mistreated them or neglected their backpacks, where they are usually housed.

Jana, Kristi, and Amy all spoke of being able to survive because of support groups and sharing with colleagues. Often the disruptions and distractions of technology in and out of the classroom were shared within these groups and chalked up to lessons learned in their first year of teaching. First year struggles also included a culture shift that Amy mentioned when learning all the district rules. Many participants felt overwhelmed at the

district rules and responsibilities, excluding technology, therefore relied on veteran teachers for learning about the ins-and-outs of the classroom and the community. Accessibility, convenience, and connections were a part of the "kids" survival techniques regarding digital literacies and technology.

Activities

Brooke recalled a Twitter activity called #maincharactermonday (e.g., a spin-off of man-crush-Monday) in which students provide information about their main book character on the class Twitter account. Students are taught how to research and use resources involved in these types of endeavors. In all the participants' districts, REMIND 101 was used for parent and student communication and connection with the teachers and administration. Phone numbers were not used, therefore, there was an anonymity for all who signed up for the program. Brooke and Sarah discussed how important training and inservice were for all technology activities and digital literacies across their district, especially those that are required – conferences, Remind 101, Schoology, etc.

Goals

Positive interactions between students, teachers, and parents were future goals for Amy, Kelly, and Betsy. Amy wanted to continue to make connections to parents through personal phone calls, whereas Kelly and Betsy wanted to make sure the contact was at some point, face-to-face. All teachers wanted to make sure their classroom management improved and, like Amy, setting expectations early and sticking with them throughout the year were keys in management. One of the main important goals for all participants as they were surviving their first year, was to try new things and new technologies that they knew suited their students' needs. Although as first year teachers, they felt overwhelmed

and underprepared. This additional preparation and exploration would continue once year one was completed.

Tools

Technology tools used in their classes were similar across the board. The tools reflected the individuals' districts' acceptance policy. Chromebooks, laptops, and calculators were the top three tools applied in classrooms of the teachers. Whether or not the students used them at school, or checked out to use at home, three out of six campuses were one-to-one as shown in Table 22. Teachers were provided a personal device in those one-to-one school districts as well.

Table 22

One-to-one campuses.

	One-to-one	Chromebook	IPad	Mac	Laptop
Amy	N				Cart
Jana	Y		Y Teacher		
Kelly	N		Cart		
Kristi	Y	Y Teacher			
Brooke	N	Y	Y		Cart
Betsy	Y		Y Teacher	Teacher	

Note: Individual campuses that provided one-to-one devices for their students and teachers. Those that were not one-to-one, had access to check out carts.

Teachers Pay Teachers was the number one resource tool that teachers used in their classrooms; four used the free version, two used a district-issued contract. Kristi mentioned how her homework was completed online; however, in math, that was difficult when it came to be working out the problems. She made the same comment about

showing work in math, “Students really need to work it out on paper and pencil.” Amy, Kelly, and Betsy also viewed paper and pencil importance for problem completion. Amy, Kelly, Kristi, and Betsy were all math teachers.

Environment

Survival

When discussing the environment, I composed professional, personal, home, and work from attributes within the teachers’ discussions and thoughts. Betsy was very adamant about trying to spend more time personally with her digital literacies and technology practices. She felt she was always researching activities for work and school, although not much for her personal use. Kelly did most of her research at home, like Betsy, and realized throughout our discussion in the interview, she was doing it for school and her classroom, instead of personal reasons. She did a lot of inservice hours learning about technology during the summer to save time in the fall and spring. The summer (i.e., 2018) she volunteered for an inservice training about the TI-Nspire Calculator. She was not using the calculator at the time, with her sixth graders; however, she tutored eighth grade mathematic students and wanted to understand how to use the device.

Many of the teachers’ reactions involved ideas that digital literacies were not prominent personally, as much as they were professionally. Digital literacies deemed ‘unfamiliar’ as they were during teacher preparation programs and before teaching their first year. After each individual interview, I noted they devoted a lot of time to research for their classrooms and instructions, applying digital literacies to their lessons and plans. The personal aspect of digital literacies did not seem to exist beyond classroom research.

All the members of the study used emails and technology for communicating with parents and scheduling parent-conferences. However, there were some issues within district boundaries that limited that communication. Internet Explorer presented limitations for Jana in her district, therefore she relied heavily on Google Chrome and Google Classroom for online interactions and student practices. Amy, Kelly, and Brooke believed they could provide more digital literacies for their students if they had their own carts or devices available in their classes. Only half of their students had their own devices at school, therefore, without the carts, online interactions and activities with lessons were limited. Betsy found her students' age was also an issue. When downloading apps and online activities, age limitations were a factor. Teachers had to agree to apps the district provided as suitable products.

Accessibility at home was an issue with many of the teachers. The students either did not have personal or school appointed devices at home or they did not have access to the internet. This posed an issue for teachers assigning homework online or digitally. Also, each teacher wanted to be able to enforce 'screen-breaks.' Since students were constantly on screens at school, they felt home would be the best choice of taking that break. Betsy also mentioned how disruptive it was at school when parents sent their children text messages during school hours.

Activities

Activities for all teachers included professional development and research. Like Betsy and Kelly, the other four participants found themselves doing more research for professional practices, than personal use. Kristi even found herself text messaging or using her desktop computer for educational purposes only. They used Remind 101 in

Kristi's district, which could address multiple parents at once, without portraying actual phone numbers. Students were creating and utilizing their devices every day, especially those that were one-to-one. The teachers whose districts had iPad or Chromebook carts for check out, found issues with accessibility and what to do when they are damaged or unavailable.

Activities in the school environment included student collaboration, using podcasts, discussing, and responding in their subject areas. Students were provided online assignments, quizzes, and notes that were available for intake. Sharing, interaction, and note taking were all happenings that the teachers' students used as functional classroom digital literacies. Abby mentioned how her students read, studied, opened, and clicked on a vocabulary assignment (e.g., old and new literacies involving math). She also mentioned town-hall type meetings for educators on her campus to communicate needs of their students and classrooms. These town-hall meetings were live-streamed for those that could not attend.

When teachers mentioned using personal time for social media, all of them mentioned how much that had lessened since they started teaching school. The typical Facebook 'scroll' or checking the 'status' of a post for personal reasons, were replaced with researching 'Teacher Pay Teacher' and other websites for lessons plans, instructional activities, and pedagogical events. They were surprised at the actual time spent on their personal use of technology and digital literacies, how it had been replaced with teacher 'stuff!'

Goals

The main goal for all the teachers was to find a balance between professional and personal use. They all stressed the importance of students also having a balance of how to 'shut down' or 'decompress.' A question occurred with several teachers, should they be the ones to monitor 'shut down' or was it parents' responsibility? Betsy mentioned being part of a Digital Citizenship Task Force in the district that promoted social-emotional learning and digital literacy. There were two conferences scheduled in the year that promoted professional development in these two areas. "It's all things led by people that work in the district, teachers just have a passion for it," said Betsy. She was adamant about creating healthy online interactions and connections of technology between school and home.

One of Amy's future goals for her students was to be able to work at their own pace. She felt this would be done easiest if they had iPad carts or laptop carts at their disposal or were a one-to-one laptop/mobile device campus. Amy, Kelly, and Kristi wanted to make sure to include the instructional technology person on their campus more in their planning and lesson applications. Both Amy and Kelly had Instructional Technologists (IT) who will come into their classroom on their conference and show them technology tools or digital literacy applications for the TEKS (i.e., Texas Essential Knowledge and Skills) applied in the lesson for the day/unit.

Tools

Within the teaching online environment, students used classroom portals, Google Classroom, social media, and teacher blogs for discussions and interactions. Betsy and Brooke were especially excited about mentioning how their districts were Twitter supporters. They remembered creating a Twitter account in their teacher preparation

programs, (e.g., in my course). They used Twitter to promote their classroom activities, technologies, and students' success. Brooke had a goal of winning the districts 'Twitter Trophy' for her campus, by Tweeting the most times in her district.

Technology

Survival

Another theme involved the overarching component of technology: computers, iPad, calculators, Chromebooks, laptops, and iPods. All of these were either used in the teachers' classrooms or mentioned by at least one of the teachers. Some survival techniques the teachers wanted to offer future educators was that technology was always changing and challenging, and to be ready to make mistakes. They mentioned the difficulties, issues, and restrictions within the districts where they were teaching, as well as how students mishandled their devices when they were one-to-one. Transitions were important when planning lessons, being able to transition from one technology to another, was just as important as planning with them. Betsy again stressed the importance of decompressing from technology and screens.

For the participants who were in one-to-one districts, participants thought it might be best if students had carts in the classroom, which would be issued each day. However, those participants whose district was not one-to-one found checking out the iPad carts or laptop carts difficult – some didn't work, they weren't charged, or you had to wait on the carts instead of using them right away. There were opposite thoughts between colleagues – districts who were one-to-one, wanted carts for the classroom, not individual devices for their students; those that were not one-to-one districts, wanted individual devices for all students. All the participants felt it was necessary to expose their students to as many

technologies as possible and keep digital literacies in their instructional ‘playlist.’ Each participant mentioned training within the district as either professional development or additional summer hours. Amy felt she was not as trained as she would like with the TI – Nspire calculator and wanted to add some additional trainings to learn how to use the calculator for educational purposes.

Activities

Reserving carts, including technologies in lesson plans, and planning classroom digital literacies all surfaced within the activities theme. Some literacies within this theme included: a) engaging; b) sharing; c) collaborating; d) applying; and e) responding and discussing, all with the available districts’ technology tools. The teachers used them for student testing, sending documents, and applying accommodations. Search engines were constantly being explored by students and teachers constructing lessons, locating answers, and collecting online information. Every teacher mentioned the importance of using search engines properly and showing students how to test their results for credibility.

Goals

One objective in common between all the teachers was for their students to be ‘future ready.’ Teachers realized there was no way to prepare for all activities and technology tools for their future classrooms; however, they strove to find a balance on how to be ready for the future with digital literacies and technologies in their own classrooms. Amy suggested the way to be future ready was to set the expectations you want with technology and Kelly said to prepare as much as you can before school starts (i.e., summer, spring break, holidays). Brooke and Betsy expressed the need for districts

to bring in specialists to help with technology issues and assistance, whether that be the IT coaches, or other experts dedicated to their crafts. Training was a necessity to keep up with the changing technology and district requirements, in addition to engaging with district issued tools and apps that were free.

Tools

Brooke mentioned the use of old-school computer labs, iPad carts, and district-only apps. Betsy's largest technology tool at the district level were the iPad given to each student, as well as the carts, including district-wide apps, and a personal Mac Book, issued to all the teachers. Additionally, Brooke, Amy, and Kelly had access to iPad carts to reserve within their classrooms and Kristi's students were all issued personal Chromebooks they checked in and out each day. Table 9.2 provides information on cellphone use, instruction technology coaches on campus, and digital literacy coaches, only on one campus.

Table 23

District policies and technological support.

	Phones allowed in class	Digital Literacy (DL) Coach	Instructional Technology (IT) Coach
Amy	N	N	Y
Jana	Y	N	Y
Kelly	N	Y	Y
Kristi	N	N	Y
Brooke	Y	N	Y
Betsy	N	Y	Y

Literacy(ies)

Survival

One key point in Amy's interview was that she learned a lot about digital literacies and technology application for coursework in her teacher preparation program, although she did not see the two intertwined and applicable in her teaching. She handled the two as separate entities, not as a combination or intersection of technology and literacy (Heitin, 2016). The other five participants seemed to have a grasp on a small amount of applying digital literacies, especially using technology to receive and communicate information. Betsy described these literacies as sharing a YouTube video or gauging the validity of a website. There were struggles within the group about implementing digital literacies in their own classroom instruction; therefore, one would need to have a clearer meaning of digital literacies and the difference in applying technology tools.

Activities

Writing, responding, listening, and searching were four activities that were involved in the teachers' classrooms, with instruction and communication following suit. Amy mentioned that her students used literacy every day in math – from instruction to creation, and communication to discussion. Although she was not confident in her answers about the abilities to incorporate digital literacies within her classroom, I did visualize Amy creating opportunities of digital literacy practice without her knowledge.

Goals

Areas for future implementation included learning about digital citizenship and social-emotional connections with social media. Five behaviors reflected teachers' knowledge of social media – emails, social networking sites, online video/phone calls, online chatting/instant messaging, and using a smartphone. These goals that teachers wanted to implement involved students social-emotional stability being addressed. Even the teachers' social media habits were few and far between, compared to that of their sixth, seventh, and eighth graders.

Tools

Motion probes and Google Classroom were the predominant tools mentioned under this theme of technology. Schoology was a tool that Betsy used with her students and parents for classroom connection and communication. I asked teachers to rate their online interactions within their classrooms. Table 24 provides an accurate account of the types of online interactions of these teachers and their students: – student presentations, student research, or teacher instruction.

Table 24

Online Interactions

	Presentation	Research	Instruction
Amy	2	1	3*
Jana	1	2	3*
Kelly	2	1	3*
Kristi	1	2	3*
Brooke	2	3*	1
Betsy	3*	1	2

*3 - highest

Research Question Results

Research Question 1

How do my former preservice teachers apply digital literacies in their classrooms and teaching after their teacher preparation program?

Table 24 represents four out of six teachers labeled instruction as their highest online interactions in the classroom. Amy wanted to learn all she could about the TI-Nspire calculators that were being used in her school. She did not feel much of a connection of her teacher preparation program with her current teaching instruction; however, when she talked about how she was teaching, I could see many aspects of digital literacies in the forefront - reading and evaluating student activities, and communicating with her students.

Jana mentioned the largest connection of the teacher preparation program was her use of Canvas, which was an online learning platform that streamlines digital content and connections for all her students. In a similar manner, her teacher preparation program

used D2L as their online learning platform that housed coursework and instruction. Kelly also applied several websites she learned in her teacher preparation program to her present classes. She learned about Pear Deck and Quizlet in her teacher preparation program and her district adopted these for their educators.

Kristi, Brooke, and Betsy had similar applications from the teacher preparation program they added to their classroom as well. They recalled how great it was to learn about Google Docs, where you can 'meet' on a document without having to physically meet with a group. Kristi used Google Classroom and Socratic Seminar with her students, which she recalled learning in her teacher preparation program. Brooke and Betsy presented their students with opportunities for being digitally organized, which is what they learned in their programs. The apps for both of their districts were chosen specifically for the devices used on their campuses. Betsy recapped the apps used in her program were like the ones used in her district. She mentioned it was not reasonable to learn every app or tool used in teacher preparation program that districts adopted, especially since these teachers had a vague idea where they were going to teach their first year. However, learning how to apply the apps, digital literacies, and technology tools in the teacher preparation program made the transition to Betsy's math classroom activities easier to manage. "Activities do not really change when they become digital, it's just they're slightly different; a different platform or a different device, rather than a piece of paper," Betsy recollected.

Other connections included Brooke and Jana's excitement about their districts' strong Twitter connection for showcasing their classroom activities. They remembered creating an account for Twitter in past coursework and used the knowledge of how to

Tweet to showcase their students and classroom goings-on. They do want to use it more as application tool for student use in the future, rather than just for information - #lookatus! (i.e., Brooke's district's hashtag).

Research Question 2

How do my former preservice teachers apply digital literacies in their personal lives after their teacher preparation program?

These teachers did not see specific personal applications of digital literacies in their individual activities at home. They felt their main involvement in their personal lives altered between researching and using search engines for future classroom instruction. The connection with digital literacies in their personal lives were exchanges with restaurant, movie, and shopping apps. All the participants believed they applied more digital literacies and use of technology in their professional lives, than their personal; they spoke more of working and exploring search engines for school and student instruction, rather than personal use. They wanted to be the best teachers they could be for their students and felt digital awareness of technology and social interaction in the classroom were keys to reach that goal.

Research Question 3

What intersections and disjunctures occur between how my former preservice teachers personally and professionally apply digital literacies?

As indicated in the cross-case analysis, there were many intersections that occurred between teachers' professional digital literacies application. To summarize, all teachers mentioned intersections of what they learned in their teacher preparation program to their classroom lessons and instruction today. They were excited to start their

second year, applying what they learned in their first year, without undergoing first-year teacher anxieties.

Disconnections (i.e., disjunctures) were those of classroom management and district applications and technologies. Although they were provided ample opportunities for actual classroom exposure, they agreed that more management techniques and opportunities to research districts technology applications, would be beneficial. Again, they were not aware of their future teaching placement, so learning everything they did in their teacher preparation program could not compare to what they were using and applying in their current district as first-year classroom teachers.

Chapter Summary

In Chapter XI, I compared and contrasted themes that emerged during my cross-case analysis I conducted a thematic analysis (Braun & Clarke, 2006), using key-words-in-context (Bernard & Ryan, 2010), and word count as coding methods of each single case. Following the thematic analysis, I provided a cross-case analysis of all six participants. They shared similar beliefs about survival in their first year as teachers, activities within instruction and planning, goals for the future use of digital literacies, and technology tools for their present and future classrooms. Lastly, I provided answers to my research questions, including themes emerging from the analyses. Chapter X addresses step 10, 11, and 12 of Leech and Onwuegbuzie's (2010) 13-step methodological framework for qualitative research: Step 10: interpreting data; Step 11: legitimation of data; and Step 12: writing the research report.

CHAPTER X

Corpus Analysis and Findings in Coursework

In Chapter IX I discussed the cross-case analysis of the six participants by providing evidence of the themes that emerged themes from the analysis. Chapter X provides the readers with Steps 10-13 from Leech and Onwuegbuzie's (2010) 13-step methodological framework: (a) Step 10: interpret data; (b) Step 11: legitimation of the data; (c) Step 12: write the qualitative research report; and (d) Step 13: revise the research questions (Leech & Onwuegbuzie, 2010). Also, in Chapter VIII, I offer findings based on my research questions, the framework of the study, and my literature review. Following the findings, I explain the threats to internal and external credibility, offer recommendations for the future, and discuss revisions of my research questions. In conclusion, I provide the summary and exploration statements of my study.

Chapter Overview

Researchers have suggested that teacher preparation programs need to provide preservice teachers opportunities to practice technology integration in activities and assignments throughout their preparatory coursework so that they can integrate technology in future classroom activities (Banister & Vannatta, 2006; Duncan-Howell, 2012; Hughes, 2013). This means that preservice teacher training with technology should be more fully explored in teacher preparation programs (Anderson & Horn, 2012). Moreover, because technology is ever changing, and without preservice teachers' having the opportunity to practice teaching with technology in their teacher preparation programs, it has been suggested that they would not be able to decipher their personal

digital literacy use from any future professional digital literacies (Anderson & Horn, 2012).

A further understanding and application of digital literacy standards are also important for teachers in today's classrooms for adoption into their lessons and classrooms (Wen & Shih, 2008). Erstad (2007) described the impact of digital technologies as significant "transitional learning spaces' (p. 183) for todays' youth. Without this teacher preparation training, "knowing when, where, and how to use domain-specific knowledge and strategies for guiding students' learning with appropriate ICTs" (information and communication technologies, Neiss, 2011, p. 299), teachers could be deficient in the knowledge of how to design, implement, and evaluate curriculum and instruction using ICT. Heitin (2016) defined digital literacies as an intersection of technology and literacy, for most of these teachers, I did not recognize that intersection occurring.

Therefore, in this qualitative study, I sought to better understand personal and professional uptake of digital literacies practices among my former preservice teachers. I aimed to bridge the gap between preservice teachers' perceptions of digital literacies in their personal lives and during their professional studies in a teacher preparation program. I tried to understand their incorporation of digital literacies in their first year as a teacher, as well as how they individually use digital literacies in their personal lives. It has been suggested that many educators today did not grow up using technology or if they did they were not taught with technology, therefore they do not have the skills and knowledge necessary to teach effectively with technology and incorporate it into their curriculum (Lei, 2010).

Discussion of Findings

Step 10: Interpret Data.

Research question 1: How do my former preservice teachers apply digital literacies in their classrooms and teaching after their teacher preparation program?

The findings from my research indicated inservice teachers (i.e., my former preservice teachers) applied digital literacies in their classrooms in multiple ways. One of my participants recalled an assignment in coursework, a Google Doc assignment for vocabulary instruction. For example, Amy recalled the Google Literacy assignment in my course where they completed a vocabulary list individually, although simultaneously as one entity. She reconstructed this same Google document to fit her students' lesson on financial literacy. Students researched, worked collaboratively, and controlled their working pace, all a part of this assignment. The students were searching for definitions for vocabulary terms in financial literacy (i.e., loan, grant, budget). Amy's students researched their financial literacy term, cited definitions from their textbook, and provided a friendly definition, comparable to that in my coursework. The students also provided a visual for their vocabulary term as well.

Jana remembered one of her teacher preparation courses introducing her to an online simulations resource she learned as "P.H.E.T." The Interactive Simulations, PHET, a project created at the University of Colorado, Boulder, was a non-profit resource for educational, explorable explanations. Jana alluded to some concepts the students cannot actually see (i.e., the Earth rotating around the Sun); manipulating interesting things were more realistic through the simulations. Jana compared what she learned in the teacher preparation program to things she needed to know as a first-year teacher;

however, most of it she mentioned were district-type actions. Her district had a lesson plan website to incorporate daily lessons and the structure and inclusion of district happenings, could not really be 'taught' in the teacher preparation program.

Jana never learned how to format in spreadsheet programs like Microsoft's Excel, or word processing programs like Microsoft's Word. She used Google Slides frequently, although she semi-taught herself how to use that program. Jana suggested that this might be old-school, but formatting was something she did daily and was struggling with it, recalling that she did not have a lot of training in her college years. Jana remembered a college class, involving only technology. She remembered the professor's name; although, she indicated that the course did not seem up to date, because of ever-evolving technology.

Kelly encouraged student technology engagement, as well as downtime. She recalled Google Classroom that some teachers used on her campus. She also said she attempted to use a communication tool discussed in her teacher preparation program called Edmodo – in order to connect teachers, students, and parents. She linked many digital literacies and technology tools from her teacher program, like Edmodo and Google Docs; however, she too said there were many different district platforms already in place that she had to use. Kelly reflected teacher instruction, student research, and student presentations as her students' digital literacies practices, although her instruction was the highest application from her teacher preparation.

Kelly mentioned online assignments and activities were something she was proficient in at the onset of the teacher preparation program. However, learning how to use and operate the websites that were introduced, posed a challenge in her own

classroom application. Her preference would be to incorporate technology more, although the lack of tools in her school, hindered that. She mentioned teacher preparation programs with more instruction essentially applying technology could be beneficial to all educators.

The American Library Association's digital-literacy task force offered a digital literacy definition: digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. In the cases of my participants, Jana, Brooke, and Betsy adopted strong applications of digital literacies in their classroom as the teacher, as well as incorporating student inclusion of digital literacies with online resources, interactions, and technology tools. Their use of technology platforms (i.e., hand-held devices), the software that ran it (i.e., district adaptions), and the interface (i.e., application that one sees) were addressed by these participants as preservice teachers in their teacher preparation programs and inservice teachers in their classrooms (Eshet-Alkali & Amichai-Hamburger, 2004). Jana, Brooke, and Betsy used information and communication technologies to create outstanding lessons where students evaluated and communicated information to the teacher and their peers.

When Kelly described her activities and online interactions, she had a grasp on what digital literacies were, even though she described them more as using technology tools, or lack of them, when creating her math lessons. Her students answered quizzes and discussions online, which by my definition are digital literacies. Kelly described more desiring an iPad cart for all-time access in her classroom, then she figured she could create more digital literacies activities for her students. Kristi had similar perceptions of

her digital literacies in the classroom. She felt prepared from her teacher preparation program, although wished she had more classroom discipline to administer fun, engaging, classroom lessons with technology applications.

The quality of technology used by the seventh and eighth grade participants and their teachers in Lei's (2010) research provided a significant relationship between how technology was used, and student learning emerged. Although, there was not a significant effect on the students' GPAs, these finding suggested that teachers should be realistic in technological use in the classroom, paying close attention "on the quality of technology use, how is it being used, what technology is used, and for what purposes" (2010, p. 468).

Although teacher preparation programs do promote technology incorporation within the context of coursework, it has been posited that preservice teachers are lacking the skills to transition from using digital literacies and technology as a student, for personal, social reasons, than as a teacher for instruction and pedagogy. During Betsy's interview, she alluded what Lei (2010) found in his research. She was prepared as a digital learner, growing up with her district using iPads. In her teacher preparation program, she had already transitioned from looking at technology as a learner, to type of "sub-educator." She was able to organize herself digitally, writing papers and other assignments. Betsy found it helpful to have the background knowledge of the skills needed to transition from learner to teacher, in this digital age.

Research question 2: How do my former preservice teachers apply digital literacies in their personal lives after their Teacher Preparation Program?

As mentioned, Jana stated that she never learned how to format using spreadsheet programs like Excel or Word. She used Google Slides frequently, although she semi-

taught herself how to use that program. She suggested that this might be old-school, but formatting was something she did daily and was struggling with it, recalling not a lot of training in her college years. She had taught herself how to use a spreadsheet for budgeting and classroom lists, however, she felt that these were personal and professional activities.

Kelly reiterated the need to prepare her students to use Google Chrome and how to find credible information (Google, Bing, etc.), perceiving that it was important for her students when they go to high school and college. “It is all about technology, they are not going to survive if they don’t know how to work it.” She felt this way about her personal applications with technology. She ordered plane tickets and searched online for concert tickets all the time. She knew there could be some connection with that personally for her students as well.

Coursework in my class helped Kristi familiarize herself with technology. She recalled the Google Doc activity, when students worked asynchronously creating literacy definitions and visuals of the vocabulary covered throughout the semester. She added what a life saver that was, recalling how much time it saved her in college, being able to work as a group without physically having to meet. She used the same tool, Google Docs, in her personal life as well, when planning parties, gatherings, or group activities when she could not meet with her friends.

Betsy speculated she had a stronger hold and understanding with professional digital literacies, rather than her personal practices. Research-based answers drove her teaching, not her personal life. Betsy proclaimed deciding where to eat or go to the movie, did not need to be research-based, like she would research for her students or her

classes. She referred to being ‘old-school’ again, regarding her personal life, “and I love paper.” Betsy liked to read actual books, not online; she said reading online gave her headaches. However, despite this, she said that she wanted to spend more time personally with her digital literacies and technology practices, because she felt she was always researching activities for work and school, although not much for her personal use.

Research question 3: What intersections and disjunctures occur between how my former preservice teachers personally and professionally apply digital literacies?

My participants constantly researched for their classes and student interaction while they were at school (i.e., professionally) and at home (i.e., personally). Sixth graders in Jana’s advisory class used the Canvas learning management system for homework. Different grade levels at her school used different means of homework; seventh grade students completed homework online, while sixth grade students still turned in homework on paper. Since many sixth graders did not have personal, hand-held devices at school, Jana mentioned that paper and pencil were as efficient. By seventh and eighth grade, most of the students had a personal device at school, thus, online homework for ‘turn-it-in’ worked. (www.TurnItIn.com is an American internet-based plagiarism detection service).

Kelly mentioned she used social media as a personal practice to wind down when she got home, although admitted she tried to pull back some and disengage technologically. She scrolled through Facebook and when researching at home, if pop-ups occurred, she used Google to look it up. Kelly researched things for her classroom on Teachers Pay Teachers (https://www.teacherspayteachers.com/) for math activities, stating how hard it was to keep students interested in math. She read teacher blogs to see

what new behavior management trick was working in other teachers' classrooms and searched social media sites (i.e., Instagram) to establish what classroom activities are working for others, that might work for her students. "Research is constant for me; I cannot turn it off!" She was adamant about not being able to stop planning for her classes, even looking at it personally, it turned into professional research.

At one point during a student assessment in Kelly's class, ten iPads crashed. Kelly felt lucky to have resources and technology support at her school, since she did not feel she had the means to repair devices. She reiterated several times about how lucky she felt with her district's support of technology and providing support staff (i.e., TIS) to assist their needs. Her ideas of digital literacies themselves, was an understanding, applying, and responding with the tools; while she recognized that the iPads were not always in the students' possession, she 'made the best' of the tools she had (i.e., clickers), all the while using digital literacies practices.

Google Classroom was where Kristi's students turned in everything and where all district information was stored - lesson plans, homeroom information, PowerPoints from the counselors, and AVID (Advanced Via Individual Determination) activities. This was like her online platform in the teacher preparation program; however, she did not recall PowerPoints shared by all of her professors. "That would have been an easy way for me to study and prepare, if all teachers provided their copy of PowerPoints," Kristi mentioned. She rephrased that statement, mentioning if notes were that easy to get, she might not have studied as hard, which she said was probably true of her own students.

A disjuncture she recalled was classroom management preparedness. Kristi did not recollect much classroom management training throughout her teacher preparation

program, and she struggled in this area. Although I knew it was built into all the courses, I could see how a separate, classroom management course for middle school grades could be very beneficial to preservice teachers.[9] Betsy also mentioned a disconnect in her lack of knowledge of digital paperwork. Adding digital paperwork instruction to teacher preparation programs, would benefit everyone, especially when they are graduating and trying to find a job. She mentioned districts wanted contracts signed digitally through email.

Erstad (2008) challenged the simplistic understanding of digital literacies to move beyond the skill of technology, moving towards digital literacies as a "set of competencies" (p. 198). Digital literacies under the umbrella of Lankshear and Knobel (2008) described launching certain tasks, demonstrations, and performances of skills in a digital environment as being digitally literate. Agility, confidence, and creativity added to this definition, supplements these digital literacies and how students are being digitally literate (Robertson & Lange, 2017).

In the case of Amy, Kelly, and Kristi, applications of digital literacies in their classrooms were present; however, not as powerful as the other participants. All three of these participants were creative and performed tasks in a digital environment. For example, Amy was unclear exactly how to define digital literacies, therefore did not make any connections that she was using them. However, when describing her activities with the Google Doc financial literacy lesson and how the students were responding, creating, and visualizing, I knew she just needed a better definition than the one offered

[9] Another thought on future coursework and classes for the upcoming years in the teacher preparation program (i.e., Managing Middle Level Students and Their Intersection of Technology and Literacy (Heitin, 2016) – sounds like a good course!

in her teacher preparation program, which I will apply in my future coursework. Her perceptions alluded to digital literacies, although they were not clearly developed as digital literacy practices. Kelly and Kristi both provided evidence of engaging math lessons with Quizziz, Kahoots, and Peardeck. Kelly had iPad carts that students used to answer questions in these digital environments and Kristi's students all had Chromebooks.

Discussion of Findings and the Review of Literature

There is an increasing body of research investigating preservice teacher programs and their introducing digital literacies within coursework, to provide them ways to enhance their future lessons for their future students. Marsh (2006) studied the use of popular culture in a preservice teacher course to enhance and motivate readers' text reading for in-school literacy practices. The findings to an approach to literacy and technology in Jacobs' (2006) study indicated a shift in looking at the specifics of technology, to how the activities in using technology are culturally meaningful.

There is limited research from scholars studying preservice teachers as first or second year inservice teachers on what and how their teacher preparation program prepared them to teach with technology. Also, after interviewing my former preservice teachers (i.e., now inservice teachers), we had many discussions about technology tools and how limited access can preclude the best laid plans due to the lack of technology, if iPads or Chromebooks were not available. "If we think in terms of the practice of textual consumption, production, and distribution, then we are not limited in our tool use and can move toward a meaningful integration of technology into instruction" (Jacobs, 2006, p. 192). I would like to provide multiple lessons in my coursework that stress the need of

integrating technological practices and adaptions into instruction, regardless of the technology tool available. The findings of this study will be discussed in the content of the literature review in the following sections.

Barriers: School districts. The findings of this study indicated that barriers the participants discovered from their teacher preparation program, moving into their classroom included lack of digital devices per student or lack of training for teachers to use the available devices. Kelly and Brooke had online quizzes and discussion boards ready for students for specific class times; however, these students did not have personal iPads or iPad carts in their classrooms, therefore the lessons had to be transferred to paper and pencil. Kelly's district relied heavily on data and assessment. Without having that quick assessment collection in an online manner, it was not as quick a turnaround for Kelly to provide her students' assessment data.

Also, my participants who had students with digital devices at their fingertips, posited a lack of concern about how the students treated their devices, which led to maintenance problems. Kristi's school provided every student with a Chromebook. They would check the Chromebooks out at the beginning of each day and return them before going home. This check-out process itself was a distraction for students and teachers, especially if students 'left' their device in previous classes. She also mentioned the disregard and disconnect students had for these Chromebooks. They had no accountability factor in the moment, during that day, and would often throw their backpack on the ground or accidentally break the keyboards. There was a damage or loss fee students were responsible for, although that was at the end of the school year. She

reiterated a Chromebook cart might be more suitable for each teacher, in their own classroom, so students would not have access to the devices all day at school.

Teachers in Larson's (2012) study were not prepared to teach with devices or given any instruction on how to use the device with literacy instruction in their teacher trainings. These first-year teachers were enrolled in a methods course that used e-books as a driving tool of learning. As these teachers were not trained and had no knowledge of how to use the devices, it hindered meeting the technological needs of their students in contemporary elementary and secondary classrooms (Larson, 2012; Swan & Hofer, 2011). Teachers in my study felt prepared to use technology devices in their classrooms; however, the time restraint on being able to practice with the tools and apply them to their lessons, demonstrated an issue across the board.

Digital literacies: Definition and application in the classroom. The participants' views of digital literacies were that they learned a lot about digital literacies and technology application for coursework, although they did not see the two intertwined and applicable in their teaching. Rosaen and Terpstra (2012) projected a study to expand ideas of literacy and knowledge of incorporations of new literacy, including digital literacies and pedagogies into their teaching and learning. Their study revealed preservice teachers' lack of fully applying technology and digital literacies into their planning. Writing, responding, listening, and searching were four clear digital literacies that were involved in my former preservice teachers' classrooms, with instruction and communication following suit. The teachers discussed how they applied literacy every day in math, science, and English – from instruction to creation, and communication to discussion. However, after doing this research, there is a need for future research and

conversations about preservice teachers and inservice teachers' own pedagogical encounters for preparing authentic learning outcomes involving digital literacy practices (Rosaen & Terpstra, 2012).

Brooke's district adopted Google Classroom and was transitioning to Canvas the following year. In both online platforms, students discussed a prompt she created, and responded to a classmate about their posts. All student work was turned in in Google Classroom, especially if it was digital, which was easier for her teaching style. Unfortunately, Brooke did not realize the convenience of adapting lessons online until a few months into her first year, although she did it at the time of the interview. A clearer description of online platform practice and application is needed for first year teachers, once they learn their districts online platform portals.

Teacher perceptions: Are they prepared? The participants reported their teacher preparation programs provided multiple opportunities working with technology and digital practices, although five out of six teachers could not define digital literacies as something they learned in their programs. Higher education teacher preparation programs should offer preservice teachers early exposure to a real-world classroom experience and a foundation of knowledge about pedagogy and subject matter (Feuer, Floden, Chudowsky, & Ahn, 2013), including things such as social media use. Social media was helpful in increasing the effectiveness of a university's communication to their community Joosten, Pasquini, & Harness, 2013). Joosten et al. (2013) surveyed administrators, faculty, teachers, students, and staff in a university setting regarding social media utilization. This study provided evidence that social media was the greatest communicative platform, over radio, television, etc., to connect the university community

in areas of student services and support, business services and operations, and instruction and research and this is an important implication in thinking through how to teach preservice teachers to effective use social media in their own communicative practices.

Teachers in my study also deemed social media communication as a better communicative platform. Face-to-face communication platforms for Betsy's school included PTO (Parent Teacher Organization) and Tiger Climate (pseudonym). She described Tiger Climate as parent-led meetings involving community building activities with parents and learners, relating back to what learners were creating in school. Committees meetings and data meetings were also face-to-face. Betsy's team met regularly with the assistant principal and counselors, discussing weekly data testing scores and learner concerns. While both were face-to-face, they were also videoed and distributed on a district website for parents and teachers who could not attend. Online communication platforms for four teachers in this study included Remind 101, emails, Canvas, and Schoology. District websites, TEAM parent portals, text/cell phone calls also provide necessary communication between teachers, learners, and parents.

Connections: Teacher, personal versus professional. The lines between personal and professional connections of digital literacies and technology applications were incomplete when teachers discussed their practices. Kristi mentioned her personal use had slowed down since she has started teaching school. Burnett (2011) and Cetin et al., (2012) posited digital literacy practices should be experienced across different areas of preservice teachers' and inservice teachers' lives, both personally and professionally, to make the most of new technology pedagogies of investigation and development. Studying a teacher preparation program and its digital literacy and technology

components will help higher education teachers adjust their curriculum to meet the needs of preservice teachers' digital connection with their students in contemporary K-12 classrooms (Burnett, 2011; Cetin et al., 2012). Researchers provided studies that demonstrated the importance of preservice teachers' self-efficacy of computers and preparation to use these and other digital literacy practices in their personal and professional lives (Jacobs, 2006; Joosten et al., 2013, Kim & King, 2011; Lewis & Fabos, 2005; and Marsh, 2006).

Once Brooke was employed in her district, she had to adapt to their technologies and digital literacy methods. Brooke was not using Google Drive or Pear Deck at the time of the interviews. In other words, she was adjusting to her first teaching semester (i.e., lesson plans, students, meetings) and learning the districts' technology practices at the same time. She felt if she studied these programs or applications in teacher preparation program and with personal connections, there would be more time for her to incorporate them within her professional setting – the classroom.

Bell, Maeng, and Binns (2013) studied a preservice teacher program that helped preservice teachers effectively integrate technology into their instruction. The participants' alluded that these were lessons where technology was modeled with instructional approaches, collaborating with peers, and feedback on their teaching. Brooke would have liked to have experienced teaching with more resources and modeling of different outlets that were available in the teacher preparation program, although she believed to be well-prepared for teaching overall. Future research on situated learning theory (i.e., integration of technology into instruction) may provide

ways preservice teachers can be prepared for reform-based instruction with integration of technology (Bell et al., 2013).

Brooke and Jana had a district/school Twitter account to promote classroom happenings and activities. However, Brooke's first choice would be to get on Twitter or Facebook for personal reasons versus professional. She did not remember a connection of Twitter, personal and professional, while in coursework or now in present time. Jana and Brooke said they did online shop and research for personal use; however, they stated when they were engaged online, it seemed to be mostly for school, creating engaging lessons and activities for their students. Brooke contrasted her personal and professional digital literacies as separate entities. She corrected herself stating how those do compare to each other, that her personal interactions with digital literacies are connected professionally. She berated herself for wanting to use social media on a more personal level, although she liked how the school displayed their classroom activities and goings on with Twitter. The main goal for all the teachers in this study was to find a balance between professional and personal use, between work and home applications of digital literacies and technology practices.

Perceived benefits: Technology shutdown. The teachers recognized the need for a technology break, shutdown, or disconnect intended for their students and their own lives. The teachers stressed the importance of students having a balance of how to 'shut down' or 'decompress.' They questioned if they should be the ones to teach how to take a break or that the parents should take on that responsibility. Brooke determined to use as much writing in her class activities as possible, to decompress from technology. The students responded to face-to-face discussions through Exit Tickets and Google forms

with quizzes, although were digital. Betsy also stressed the importance of decompressing from technology and screens. She was adamant about creating healthy online interactions and connections of technology between school and home.

Participants in Miller's (2012) study used mobile tablets to enhance their teaching and learning in the teaching areas of music, communication studies, English, and physical education. The focus was on preservice teachers' perceptions of the learning experience rather than the faculty use and incorporation of technology in the classroom. The research inferred the preservice teachers expressed a clear acceptance of the iPad as learning tools and the perceptions of their own learning experiences as overall positive (Miller, 2012). Although, participants also had negative comments about digital literacy integration and lack of classroom focus in leu of technology. Future studies would be to include how to keep the tablets from being a distraction, what to do if they did not work properly, and how to keep focused when using technology (Miller, 2012).

One objective in common between all the teachers was to be future ready. They realized there was no way to prepare for all activities and technology tools for their future classrooms; however, they found a balance on how to be ready for the future with digital literacies and technologies in the classroom, as well as time to be away from technology. The main suggestion was to be to set expectations you want with technology and prepare as much as you can before school starts (i.e., summer, spring break, holidays). The participants were adamant about bringing specialists in to help with technology issues and assistance, if they are available. Training was a necessity to keep up with the changing technology and district requirements, in addition to engaging with district issued tools and apps that are free.

Step 11: Legitimation of Data

Threats to internal credibility. Onwuegbuzie and Leech (2007) define internal credibility as "the truth value, applicability, consistency, neutrality, dependability, and/or credibility of interpretations and conclusions within the underlying setting or group" (p. 234). Strategies such as (a) research, conformation, and observational bias; (b) descriptive validity; and (c) paralogical and voluptuous legitimation were used to evaluate and to increase internal credibility. As stated previously in the research participation section, there was a personal relationship developed prior to the interview. To maximize credibility, check accuracy, and check representativeness of this qualitative study, I used multiple strategies for triangulation: (a) debriefing, (b) member checking, and (d) reflexivity. I used three data analyses (i.e., keywords in context, word count, and thematic analysis) to find corroborating information.

Verification. After I transcribed the interview, I provided teachers with time for member checking, described by Manning (1997) as an active process of determining whether the interview transcriptions were true and accurate. The interviews were sent to the participants through US mail one week later with the directive to reply within a specific time frame; no response would be indicative of no changes needed. During the interview process, data collection, and data analysis, a rapport continued to develop, and I obtained an accurate and adequate description of my former preservice teachers' perspectives of their digital literacies. At no time were the participants' identities at risk or any risk of harm or deception brought upon them. I maintained confidentiality throughout the interviews and member checking process by using a pseudonym for their real names and did not mention the actual school names where they taught school.

There was a professional relationship (i.e., teacher-student) developed prior to the interviews. To maximize credibility, check accuracy and check representativeness of this qualitative study, I used a triangulation of data: (a) member-checking, (b) debriefing, and (c) reflexivity. I applied several data analyses (i.e., word count, keywords in context, and thematic analysis) to find corroborating information. Reflexivity, as defined by Johnson and Christensen (2014), is the self-reflection of the researcher's personal bias and predispositions. Reflexivity was a key strategy that I used to confirm control of predispositions of bias. True trustworthiness cannot be assessed during the qualitative level of research (Onwuegbuzie & Leech, 2007b). Therefore, these measures were vital for ruling in favor of my interpretations of everyone's data. Table 25 provides application of internal and external credibility of the teachers.

Table 25

Threats to Credibility.

Threat to Credibility	Type of Threat	Method to Evaluate/Increase Legitimation	Attempt to Mitigate
Face Validity	Internal	Member checking, debriefing, reflexivity - triangulation of data	Member checking with teachers, debriefing with my chair, reflexivity of my own bias
Descriptive validity	Internal	Assesses the factual accuracy of the account as documented by the researcher.	Teachers' descriptions were clear and accurately transcribed.
Observational Bias	Internal	Having inadequate amounts of data from inconsistent observation or prolonged engagement.	I collected ample amounts of data, the questions were open-ended and nonthreatening, and the study took place in enough time, so as not to prolong the results.

Researcher Bias	Internal	Researcher has personal bias which might be transferred subconsciously and influence the participant's behaviors.	I used reflexivity and self-reflection and made sure not to convey any previous conceptions during teachers' interviews.
Confirmation Bias	Internal	When interpretations and conclusions based on new data are made at the interpretation stage.	Themes emerged of their own accord, without my using any *a priori* assumptions of teachers' data.
Paralogical legitimation	Internal	Participants use paradoxes, contradictions to their responses.	Teachers' responses did not contradict; follow-up questions were used when needed for clarification.
Voluptuous legitimation	Internal	Researcher's level of interpretation exceeds her/his knowledge base stemming from data.	Training from doctoral courses in qualitative research practices, interview skills, and debriefing procedures
Action Validity	External	Data analysis and data interpretation	Triangulation of methods and data collection.

Note: Table adapted from Benge, Onwuegbuzie, and Robbins (2012)

Face validity. The threat of face validity may be regarded as a failure to enlist enough participants, a failure to conduct too few interviews, or a failure to spend sufficient time observing participants (Lather, 1986). I secured six participants, which provided enough data for one interview discussing how their teacher training program provided instruction in transferring digital literacies into their classrooms as first year teachers. Additionally, I employed member checking. That is, I requested that the participants review their interview transcripts and inferred themes, and to respond with corrections and feedback. Further, I constructed analytic memos during my data collection, data analysis, and data interpretation stages. I re-read these reflexive memos many times as I considered the research questions. Even though six participants were

interview, there was a possible chance of loss of confidentiality. Therefore, each participant reviewed her own interview transcript.

Descriptive validity. Adequacy of teachers' accounts of digital literacies and how they viewed their practices after a teacher preparation program were factual and precise. They called to mind multiple activities and lessons including digital literacies and technologies regarding their online resources and students' online interactions in their classes. Their stores and responses were clear and accurately transcribed. Thus, there was little cause for me to question descriptive validity (Maxwell, 1992) of the transcribed interviews.

Observational bias. Benge et al., (2012) revealed how having inadequate amounts of data collected, stemming from inconsistent observation or prolonged engagement, could cause untrustworthy findings. There were ample amounts of data collected and the questions were open-ended and nonthreatening, to ensure that analyses were complete and in depth. The questions were asked in an order to confirm (a) were they saw digital literacies practices in their coursework, (b) how could teachers increase their digital literacies and technology applications, and (c) what transfers or disjunctures do teachers perceive from their teacher preparation programs to their classroom applications.

Research bias. Knowing the teachers, there was personal information exchanged prior to each interview. I made sure not to convey previous conceptions of what I knew about the teacher's life experiences or to ask any leading questions in the interviewing process. I was continuously aware of my own thoughts of being a professor of record, with reflexivity and self-reflection, I made sure my perceptions and opinions did not the influence questions in the interview or teachers' comments and reflections. Benge,

Onwuegbuzie, and Robbins (2012) outline specific methods of increasing credibility such as engaging in debriefing interviews and self-reflection to construct a credible interpretation. I incorporated several debriefing interviews with my dissertation chair, to uncover any of my biases before, during, and after the study (Onwuegbuzie et al., 2008).

Several questions were asked in the debriefing interview. These questions revolved around a conversation about the interview process, the actual interviews, and the outcomes of the participants and their comments of digital literacies. These questions verified that the probing and follow-up questions did not draw from any previous knowledge that my dissertation chair had of the teachers and digital literacies and technologies in their professional settings.

I continued to check for bias at the data interpretation phase, eliminating active sources (i.e., researcher's preferences) that would influence my behaviors (Onwuegbuzie & Leech, 2007). To ensure even more security of the teachers' knowledge, I offered them a chance to examine the transcription before the member checking process and before analyzing the data in the data collection section. Teachers did not send back a transcription change or alteration for any interview.

Confirmation bias. Greenwald, Pratkanis, Leippe, and Baumgardner (1986) defined confirmation bias as a threat during the data interpretation stage by way of the researchers' preconceptions of the topic. This threat occurs when interpretations and conclusions based on new data are made at the interpretation stage. Themes regarding teachers' digital literacies emerged of their own accord, without my using any *a priori* assumptions.

Paralogical legitimation. Onwuegbuzie and Leech (2007) discussed paralogical legitimation as when participants use paradoxes (i.e., contradictions to their responses in research. Teachers' responses did not contradict each other, they actually built off of the coursework I remembered in their teacher preparation program. Also, if any confusion arose regarding teachers' responses, follow-up and probing questions were used for clarification.

Voluptuous legitimation. According to Onwuegbuzie and Leech (2007), voluptuous legitimation "represents the extent to which the researcher's level of interpretations exceeds her/his knowledge base stemming from the data" (p. 235). These threats were narrowed because I had knowledge and training in (a) qualitative research practices, (b) interviewing skills, and (c) debriefing procedures in my doctoral studies. Also, with feedback and instruction from previous works, I have adapted my analysis to fit the criteria of an authentic study (Guba & Lincoln, 1989). The scribe transcription software, Transcribing by Wreally, assisted me in transcribing the data from the interviews and member checking.

Threats to external validity. External validity was relevant to the confirmability and transferability of findings and conclusions of findings across different populations (Onwuegbuzie & Leech, 2007). According to Creswell (2003), external validity consists of truthfully and thoroughly specifying the detailed mechanisms in which the results were generated, so that future researchers can judge to what extent they can use the mechanisms in a different setting. Threats to the external credibility of these findings were not pertinent. That is, all data and findings were applicable only to me and were not generalizable to the population of the participants.

Action Validity. According to Onwuegbuzie and Leech (2007), when a research study is used by other researchers to support or replicate further studies; action validity is employed. That is, if my qualitative study is read or replicated by future researchers, action validity may be established. In fact, if the study is read by practitioners, those practitioners may revise their practices regarding digital literacies and technology applications and in this way, the threat of action validity may be minimized. Action research approach to research is engaging with practitioners to solve one of their problems. McKay and Marshall (2001) provide us direction on how to integrate the demands of research with the demands of practicality. To this end, I employed triangulation of methodology: a) member checking, b) debriefing, and c) reflexivity. Also, I applied triangulation of data: a) thematic analysis, b) keywords-in-context, and c) thematic analysis to increase the chance that future researchers and practitioners may desire to research my topic more fully.

Step 12: Writing the Research Report

Writing the research report is step 12 of Leech and Onwuegbuzie's (2010) 13-step methodological framework for qualitative research. Composing the final report included pondering the significance of the study, investigating the literature, considering the methodologies needed for the study, and the collection, analysis, interpretation and findings of the data corpus. Based on the study, the following implications are offered:

Implications: Defining digital literacies.

Articles that I've read since the beginning of this research study, suggest that digital literacy was too broad a term, and experts are preferring to apply "intersections of technology and literacy" (Heitin, 2016). Another researcher describes digital literacy as

having three tiers: (a) finding and consuming; (b) creating digital content; and (c) communicating or sharing it (Spires, Lee, Turner, & Johnson, 2008). Finding and consuming is reading print, either off or online. Students reading print involves flipping through pages, searching through stacks of books, and going to the library. Online reading involves using a search engine, navigating, results, and assessing the readability of authors. Creating digital content offers students writing in digital formats – email, blogs, Tweets. The final tier, communicating and sharing, was defined as being "social, participatory, and collaborative in online communities" (Spires & Bartlett, 2012, p. 11).

Other areas for defining and discovering digital literacies from the teachers in this study included learning about digital citizenship and social-emotional connections of social media. Five behaviors seemed to reflect teachers' students' knowledge of communication – emails, social networking sites, online video/phone calls, online chatting/instant messaging, and using a smartphone. These teachers wanted to implement students' social-emotional stability addressed in their personal and school lives. Even teachers' social media habits were few and far between, since beginning their first year as a teacher, compared to that of their sixth, seventh, and eighth grade students. As the advancement of technology increases, the development of digital citizenship and social-emotional connections for instructional purposes in teacher preparation coursework can be geared for inservice teachers entering their first year as teachers.

Implications: Coursework changes.

After conducting the interviews of six of my former preservice teachers, I found some alternatives to my pedagogy and instruction in my own coursework in a teacher preparation program. One is to add a section on implements intake of technology into

lessons. Participants' suggested providing small changes and options with technology, instead of presenting technology apps and tools all at once, in one segment. Reminders that technology changes very quickly, was important to these teachers, so their lessons can be adapted no matter what technology was available. If there is an opportunity to learn where these preservice teachers might be teaching (i.e., district, school, etc.), I could research their districts' technology applications and tools for their future. This would provide them time to look up their districts' technology and use, regarding lesson planning, adopted apps, and device initiatives.

Expectations needed to be established early, and very clear expectations of the days' activities, weeks' assignments, and overall lesson plans must be provided. I plan to continue to use daily agendas for face-to-face classes and up-to-date calendars for online students. These expectations are identified at the beginning of each of my courses (i.e., face-to-face and online); however, my technology expectations need to be introduced and modeled in sections and provide strong instructions of what the technology is and how the preservice students will apply it to their assignments. I provide multiple areas of digital literacies and technology applications in my coursework, however I did not break them down. I will alter these lessons, so they have time to do research and decide which tool is best for their lessons.

I have introduced a new assignment my course work for preservice teachers to research their 'future' district, as a result from this study. Although preservice teachers might not know exactly what district they want to teach in, they might have an idea about the area they want to live. The 'District App Assignment' required them to research districts' adapted software, technology apps, instructional coaches, and online

communication platforms, where they could be potentially housed as first year teachers. Once they do their research, the assignment continues for preservice teachers to view a lesson plan already created, labeling anytime they see digital literacies (i.e., intersection of technology and literacy; Heitin, 2013) with the strategies and activities already in place. If they are not present in the lesson plan as is, they are to add 3-5 areas where they could place those intersections of technology and literacy.

Lastly, providing preservice and inservice teachers ways to consider options excluding technology, will be important in my future coursework and following this study. Some teachers felt "bogged" down in their teacher preparation coursework, trying to match right digital resource to their lesson plans. Preservice and inservice teachers need to create a structure for their lessons, starting with organization and delivery, then figure out what technology and digital literacies would be best to apply. My participant Betsy used an example of making at 30-second video on math integers and concepts. She already knew she was going to introduce integers and math concepts (i.e., organization and delivery), she added a 30-second video on IPads involving math integers and concepts (i.e., digital literacy and technology application) for students to view upon entry into her classroom.

Implications: Connections and Communications.

Positive interactions between students, teachers, and parents can be difficult for first year teachers. Teachers in my study want to continue to make connections to parents through phone calls, face-to-face interactions, and online resources. All the participants want to make sure their classroom management gets stronger; they discussed setting expectations early and sticking with them throughout the year. This strong classroom

management can be completed with continuous communication with parents, according to these participants. One of the main goals for all of the teachers was just to survive their first year; they wanted to try new things and new technologies that they knew would fit their students' needs, although now it was about "treading water, not fully swimming." As first year teachers, they felt overwhelmed and underprepared; however, they also felt they could do more preparation and exploration once year one was complete.

Another aspect of teacher support would be an online communication platform where these teachers, who completed their programs, together with their professors of the program, to have a one-five-year exchange of conversations. These conversations could be regarding lesson planning, classroom management, check-ins; anything that would be beneficial, not only to the teachers, but the professors who could then improve their own programs. I do something similar with Facebook messenger, although it doesn't go beyond student teaching. My preservice teachers create a Facebook Messenger Group where they talk, ask questions, and 'vent' when needed. I chime in when I can, although I always send out Monday Messages, for encouragement, a task to complete that week (i.e., introduce yourself to one student you do not know), or an all-around "you can do it!" message. I believe when I create one each semester, I can attempt to continue those messages, however in one large forum, of all former preservice teachers.

Recommendations for Future Research

Future researchers undertaking a study on preservice teachers' and inservice teachers' perceptions of digital literacies in their coursework and classrooms might consider the inclusion of a survey for students to answer. Questions derived from Spires, Lee, Turner, and Johnson (2008) study regarding middle grade students' perspectives on

school, technologies, and academic engagement, can be included in this survey for students in middle level grades. Teaching in a teacher education program, middle level and secondary level field placement sections, provides access to multiple grades, sixth – twelfth. The questions can include students' entertainment with video games, listening to music, as well as communication with emails, chat rooms, IM (instant messaging), and cell phones. Other questions could include students' different activities in school: research on the Internet, using computers for projects, listening to teachers, or using worksheets. Educators in K-12 classes can also survey their students about perspectives of computers, technology, and academic engagement in their own classrooms.

In this study, analysis was applied to my coursework in a teacher preparation program. In a future study, I would strengthen the methodology of thematic analysis by incorporating my participants' (i.e., teachers') coursework and/or lessons they created for their classrooms as first year teachers, not just as preservice teachers in their teacher programs. By using their created lessons, I can compare digital literacies, technology applications, and communications within their environment to that of my own teacher preparation program coursework. Comparing and contrasting could provide additional understanding of my own definition and practices of digital literacies' emerging themes.

Step 13: Reforming Research Questions

As I engaged in analyzing data with various methods of key-words-in-context, word count, and thematic analysis, themes emerged that were not linked to the research questions I provided for this study. Also, implications from the study brought about considerations that need to be visited. The original questions are as follows:

(a) How do my former preservice teachers apply digital literacies in their classrooms after their teacher preparation program?

(b) How do my former preservice teachers apply digital literacies in their personal lives after their teacher preparation program?

(c) What intersections and disjunctures occur between how my former preservice teachers personally and professionally apply digital literacies?

When conducting reflection and reflexivity of the questions, different questions for a future study might be revised to include question one, although revising question two and three.

(a) How do my former preservice teachers apply digital literacies in their classrooms after their teacher preparation programs?

(b) How do my former preservice teachers define digital literacies (i.e., intersection of technology and literacy) in their classrooms, after their teacher preparation programs?

(c) How do my former preservice teachers apply technology applications to their created lessons in their classrooms, after their teacher preparation programs?

It is possible that adding a survey to the coursework analysis and interviews, could strengthen future research. Collecting qualitative data (i.e., interviews) and quantitative data (i.e., survey or questionnaires of digital literacies and technologies of students' interests) would paint a clearer picture in actual digital literacies and technology applications that are occurring in K-12 classrooms. Therefore, mixed methods study

would present a better understanding of teachers' digital literacies (i.e., intersections of technology and literacy) and how they apply them to their already created lesson plans.

Conclusion

This collective case study was organized case by case, with sections combining all the cases for cross-case analysis (Johnson & Christensen, 2014). I reconstructed the teachers' portrayal of digital literacies within their teacher preparation programs and their classrooms in a Title One school. My study followed Leech and Onwuegbuzie's (2010) 13-step methodological framework for qualitative research.

Many factors play into teachers' lessons and activities for their classrooms. Being able to survive because of support groups, sharing with fellow teachers, and lessening distractions of technology in and out of the classroom, were some of these factors. State and district rules limit teacher's technology applications and requirements in the K-12 schools. Many participants felt overwhelmed at the district rules and responsibilities, excluding technology, therefore relied on veteran teachers for learning about technology ins-and-outs for the classroom. Accessibility, convenience, and connections are a part of the survival techniques regarding digital literacies and technology that preservice and inservice teachers should be applying in their classrooms.

Summary

In Chapter X, I provided discussions, and implications of future research derived from the data in this study. This last chapter also addressed step 10 - 12 of Leech and Onwuegbuzie's (2010) 13-step methodological framework for qualitative research: Step 10: Interpreting Data; Step 11: Legitimation of Data; and Step 12: Writing the Research Report. Research implications and ideas for future research are also addressed. After

finishing this study, I decided that different research questions could make this study stronger, so I altered the research questions two and three to strengthen future studies of digital literacies of preservice and inservice teachers.

REFERENCES

Adalier, A. (2012). Turkish and English language teacher candidates' perceived computer self-efficacy and attitudes toward computer. *TOJET: The Turkish Online Journal of Educational Technology, 11* (1), 192-201.

Adler, P. A., & Adler, P. (1987). *Membership roles in field research*. Thousand Oaks, CA: Sage. http://dx.doi.org/10.4135/9781412984973

Alvermann, D. E., Moon, J. S., & Hagood, M. C. (1999). *Popular Culture in the Classroom: Teaching and Researching Critical Media Literacy. Literacy Studies Series*. International Reading Association, 800 Barksdale Road, PO Box 8139, Newark, DE 19714-8139; Web site: http://www. reading.org

Anderson, B., & Horn, R. (2012). Community colleges in the information age: Gains associated with students' use of computer technology. *Journal of Educational Computing Research, 47*(1), 51-65. http://dx.doi.org/10.2190/EC.47.1.c

Anderson, L., Krathwohl, D., Airasian, P., Cruikshank, K., Mayer, R., & Pintrich, P. R. J., and Wittrock, M. 2000. *Taxonomy for Learning, Teaching, and Assessing*.

Archer, J., Childs, A., Covaciu, S., & DeYoung, C. (2012). Effective Instructional Tools or Costly Distractions: An Examination on the Effective Implementation of Technology in the Classroom. *School Leadership Review 7*(2), 11-23.

Banas, J. R. (2010). Teachers' attitudes toward technology: Considerations for designing preservice and practicing teacher instruction. *Community & Junior College Libraries, 16*(2), 114-127. https://www.tandfonline.com/doi/abs/10.1080/02763911003707552

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. http://dx.doi.org/10.1037/0033-295X.84.2.191

Banister, S., & Vannatta, R. (2006). Beginning with a baseline: Insuring productive technology integration in teacher education. *Journal of Technology and Teacher Education, 14*(1), 209. https://search.proquest.com/docview/200006665?accountid=6444

Barriball, K,. & While, A. (1994). Collecting Data using a semi-structured interview: a discussion paper. *Journal of advanced nursing*, *19*(2), 328-335.

Bell, R. L., Maeng, J. L., & Binns, I. C. (2013). Learning in context: Technology integration in a teacher preparation program informed by situated learning theory. *Journal of Research in Science Teaching*, *50*(3), 348-379. https://onlinelibrary.wiley.com/doi/abs/10.1002/tea.21075

Benge, C. L., Onwuegbuzie, A. J., & Robbins, M. E. (2012). A model for presenting threats to legitimation at the planning and interpretation phases in the quantitative, qualitative, and mixed research components of a dissertation. *International Journal of Education*, *4*(4), 65-124. doi.org/10.5296/ije.v4i4.2360

Bennett, L. (2014). Learning from the early adopters: Developing the digital practitioner. *Research in Learning Technology, 22*(1), 1-13. http://dx.doi.org/10.3402/rlt.v22.21453

Berger, P. L., & Luckmann, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge.* Garden City, NY: Anchor.

Bernard, H. R., Wutich, A., & Ryan, G. W. (2010). *Analyzing qualitative data: Systematic approaches*. SAGE publications.

Best, M. (2017). Transforming Pre-Service Teachers' Beliefs and Understandings about Design and Technologies. *Australian Journal of Teacher Education, 42*(7), 47-65 http://dx.doi.org/10.14221/ajte.2017v42n7.4

Bloom, B. S. (1956). Taxonomy of educational objectives. Vol. 1: Cognitive domain. *New York: McKay*, 20-24.

Boksz, B. A. (2012). *An examination of teachers' integration of web 2.0 technologies in secondary classrooms: A phenomenological research study*. Nova Southeastern University.

Borup, J., Graham, C. R., & Drysdale, J. S. (2014). The nature of teacher engagement at an online high school. *British Journal of Educational Technology*, *45*(5), 793-806. https://doi.org/10.1111/bjet.12089

Boulton, H., & Hramiak, A. (2014). Cascading the use of Web 2.0 technology in secondary schools in the United Kingdom: identifying the barriers beyond pre-service training. *Technology, Pedagogy and Education*, *23*(2), 151-165. https://doi.org/10.1080/1475939X.2013.802994

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Brown, S. (2010). From VLEs to learning webs: the implications of Web 2.0 for learning and teaching. *Interactive Learning Environments*, *18*(1), 1-10. https://doi.org/10.1080/10494820802158983

Brownlee, J., Purdie, N., & Boulton-Lewis, G. (2001). Changing epistemological beliefs in pre-service teacher education students. *Teaching in Higher Education*, *6*(2), 247-268. https://doi.org/10.1080/13562510120045221

Buckingham, D. (Ed.). (2008). *Youth, identity, and digital media* (pp. 119-142). Cambridge, MA: MIT Press.

Burnett, C. (2011). Pre-service teachers' digital literacy practices: exploring contingency in identity and digital literacy in and out of educational contexts. *Language and Education, 25*(5), 433-449. https://doi.org/10.1080/09500782.2011.584347

Çetin, O., Çalışkan, E., & Menzi, N. (2012). The relationship between technological competencies and attitudes of pre-service teachers towards technology. *Elementary Education Online, 11*(2), 273-291

Constas, M. A. (1992). Qualitative analysis as a public event: The documentation of category development procedures. *American Educational Research Journal, 29*(2), 253-266. http://dx.doi.org/10.3102/00028312029002253?

Creswell, J. W. (2002). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Upper Saddle River, NJ: Pearson Education.

Creswell, J. W., & Clark, V. L. P. (2010). Designing and conducting mixed methods research. Retrieved https://study.sagepub.com/creswell3e

Creswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2001). Best practices for mixed methods research in the health sciences. *Bethesda (Maryland): National Institutes of Health, 2013*, 541-545.

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches. Thousand Oaks, CA, US.

Cuban, L. (1986). *Teachers and machines: The classroom use of technology since 1920*. Teachers College Press.

Darling-Hammond, L., Banks, J., Zumwalt, K., Gomez, L., Sherin, M. G., Griesdorn, J., & Finn, L. (2005). Educational goals and purposes: Developing a curricular vision for teaching. Preparing teachers for a changing world: What teachers should learn and be able to do. John Wiley & Sons.169-200.

David, J. L. (2009). Teaching Media Literacy. *Educational Leadership*, *66*(6), 84-86. http://www.ascd.org/publications/educational-leadership/mar09/vol66/num06/Teaching-Media-Literacy.aspx

DeGennaro, D. (2008). Learning designs: An analysis of youth-initiated technology use. *Journal of Research on Technology in Education*, *41*(1), 1-20. https://doi.org/10.1080/15391523.2008.10782520

Denham, M. A., & Onwuegbuzie, A. J. (2013). Beyond words: Using nonverbal communication data in research to enhance thick description and interpretation. *International Journal of Qualitative Methods, 12*, 670-696. Retrieved from http://ejournals.library.ualberta.ca/index.php/IJQM/article/view/19271

Denzin, N. K. (1978). The research act: A theoretical introduction to research methods. *New Brunswick, NJ: Aldine Transaction*.

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), The Sage handbook of qualitative research (3rd ed., pp. 1–32). Thousand Oaks, CA: Sage

Duncan-Howell, J. (2012). Digital mismatch: Expectations and realities of digital competency amongst pre-service education students. *Australasian Journal of Educational Technology, 28*(5), 827-840. https://doi.org/10.14742/ajet.819

Eisenhart, M. (1991). Conceptual Frameworks for Research Circa 1991: Ideas from a Cultural Anthropologist; Implications for Mathematics Education Rese.

Erstad, O., Gilje, Ø., & de Lange, T. (2007). Re-mixing multimodal resources: multiliteracies and digital production in Norwegian media education. *Learning, Media and Technology, 32*(2), 183-198.

Erstad, O. (2008). Trajectories of remixing: Digital literacies, media production, and schooling. *Digital literacies: Concepts, policies and practices, 30*, 177-202.

Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education, 59*(2), 423-435. https://doi.org/10.1016/j.compedu.2012.02.001

Eshet-Alkali, Y., & Amichai-Hamburger, Y. (2004). Experiments in digital literacy. *Cyberpsychology & Behavior, 7*(4), 421-429. https://doi10.1089/cpb.2004.7.421

Feuer, M. J., Floden, R. E., Chudowsky, N., & Ahn, J. (2013). *Evaluation of Teacher Preparation Programs: Purposes, Methods, and Policy Options.* National Academy of Education. 500 Fifth Street NW Suite, 339, Washington, DC 20001.

Fielding, N. G., Lee, N. F. R. M., & Lee, R. M. (1998). *Computer analysis and qualitative research*. Sage.

Fischer-Baum, R. (2017). The Washington Post https://www.washingtonpost.com/graphics/2017/entertainment/tech-generations/?utm_term=.9cca9c1defe0

Frels, R. K., & Onwuegbuzie, A. J. (2012). Interviewing the interpretive researcher: An impressionist tale. *The Qualitative Report, 17*(60), 1-27. Retrieved from http://www.nova.edu/ssss/QR/QR17/frels.pdf

Gee, J. P. (2005). Semiotic social spaces and affinity spaces. *Beyond communities of practice language power and social context*, 214-232.

Gee, J. P. (2014). *An introduction to discourse analysis: Theory and method*. Routledge.

George, M., Richardson, J., & Shoffner, M. (2012, March). How Does Technology Fit?: Developing Contemporary Literacies across Disciplines. In Society for Information Technology & Teacher Education International Conference (Vol. 2012, No. 1, pp. 4087-4090).

Gerber, H. R. (2019). On being ethically transparent: The role of writing methodological procedures in context into qualitative research studies. Unpublished manuscript.

Giddens, A., (1991) Modernity and Self: Identity, Self and Society in the Late Modern Age, Cambridge: Polity Press

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social problems*, *12*(4), 436-445.

Glaser, B., & Strauss, A. (1967). Grounded theory: The discovery of grounded theory. *Sociology the Journal Of The British Sociological Association*, *12*, 27-49.

Glister, P. (1997). *Digital literacy*. New York: Wiley Computer Pub.

Gorden, R. L. (1980). *Interviewing: Strategy, techniques, and tactics.* Homewood, IL: Dorsey.

Greenhow, C., Robelia, B., & Hughes, J. (2009). Learning, teaching, and scholarship in a digital age: Web 2.0 and classroom research--What path should we take "Now"? *Educational Researcher*, *38*(4), 246-259. journals.sagepub.com/doi/10.3102/0013189X09336671

Greenwald, A. G., Pratkanis, A. R., Leippe, M. R., & Baumgardner, M. H. (1986). Under what conditions does theory obstruct research progress? *Psychological Review, 93*, 216-229. doi.org/10.1037//0033-295x.93.2.216

Guba, E. G., & Lincoln, Y. S. (1989). Fourth generation evaluation. Newbury Park, CA: Sage.

Hall, R., Atkins, L., & Fraser, J. (2014). Defining a self-evaluation digital literacy framework for secondary educators: the DigiLit Leicester project. *Research in Learning Technology*, *22*(1), 1-17. http://dx.doi.org/10.3402/rlt.v22.21440

Heitin, L. (2016). What is digital literacy. *Education Week, 36*(12), 5-6.

Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' technological pedagogical content knowledge and learning activity types: Curriculum-based technology integration reframed. *Journal of Research on Technology in Education*, *41*(4), 393-416. https://www.tandfonline.com/doi/abs/10.1080/15391523.2009.10782536

Holstein, J. A., & Gubrium, J. F. (1997). Active interviewing. D. Silverman (Ed.), *Qualitative research: theory, method and practices* (p. 113-129) London, Sage.

Hou, H. T., Chang, K. E., & Sung, Y. T. (2009). Using blogs as a professional development tool for teachers: Analysis of interaction behavioral patterns. *Interactive Learning Environments*, *17*(4), 325-340.

Hundley, M., & Holbrook, T. (2013). Set in stone or set in motion? Multimodal and digital writing with preservice English teachers. *Journal of Adolescent & Adult Literacy*, *56*(6), 500-509. https://doi.org/10.1002/JAAL.171

Hughes, J. E. (2013). Descriptive indicators of future teachers' technology integration in the PK-12 classroom: Trends from a laptop-infused teacher education program. *Journal of Educational Computing Research, 48*(4), 491-516. https://doi.org/10.2190/EC.48.4.e

International Society for Technology in Education (ISTE). (2007). The ISTE National educational technology standards (NETSS) and performance indicators for students. Retrieved from

http://www.iste.org/Content/NavigationMenu/NETS/ForStudents/2007Standards/NETS_for_Students_2007_Standards.pdf

Jacobs, G. E. (2006). Fast times and digital literacy: Participation roles and portfolio construction within instant messaging. *Journal of Literacy Research, 38*(2), 171-196. journals.sagepub.com/doi/abs/10.1207/s15548430jlr3802_3

Janesick, V. J. (2014). Oral history interviewing: Issues and possibilities. In P. Leavy (Ed.), *The oxford handbook of qualitative research* (pp. 300-315). New York, NY: Oxford University Press.

Jiang, M., & Edirisingha, P. (2014). Digital Literacy Development Among Chinese International Postgraduate Students in a UK University. In European Conference on e-Learning (p. 708). Academic Conferences International Limited.

Jiménez, C., & Corral, W. H. (2012). Leaving the Land of Digital Natives. *Academic Questions, 25*(2), 250-256.

Johnson, R. B., & Christensen, L. (2014). *Educational research: Quantitative, qualitative, and mixed approaches*. Thousand Oaks, California: Sage.

Joosten, T., Pasquini, L., & Harness, L. (2013). Guiding social media at our institutions. *Planning for Higher Education, 41*(2), 125.

Kim, D., & King, K. P. (2011). Implementing podcasts and blogs with ESOL teacher candidates' preparation: Interpretations and implications. *International Forum of Teaching and Studies, 7*(2), 5-75

Joosten, T., Pasquini, L., & Harness, L. (2013). Guiding social media at our institutions. *Planning for Higher Education, 41*(2), 125.

Kim, G. M. (2015). Transcultural Digital Literacies: Cross-Border Connections and Self-Representations in an Online Forum. *Reading Research Quarterly, 51*(2), 199-219. https://onlinelibrary.wiley.com/doi/full/10.1002/rrq.131

Kim, M. S. (2012). Cultural–historical activity theory perspectives on constructing ICT-mediated metaphors of teaching and learning. *European Journal of Teacher Education, 35*(4), 435-448. https://www.tandfonline.com/doi/abs/10.1080/02619768.2011.643393

Kingsley, J. (2009). Visual methodology in classroom inquiry: Enhancing complementary qualitative research designs. *Alberta Journal of Educational Research, 55*(4), 534. https://ajer.journalhosting.ucalgary.ca/index.php/ajer/article/view/753/724

Koehler, M. J., & Mishra, P. (2008). Introducing TPCK. In Handbook of Technological Pedagogical Content Knowledge (TPCK) for Educators (pp. 3-29). Mahwah, NJ: Lawrence Erlbaum Associates, New York, NY: Routledge. http://www.matt-koehler.com/publications/Mishra_Koehler_AERA_2008.pdf

Korat, O., Levin, I., Ben-Shabt, A., Shneor, D., & Bokovza, L. (2014). Dynamic Versus Static Dictionary With and Without Printed Focal Words in E-Book Reading as Facilitator for Word Learning. *Reading Research Quarterly*, *49*(4), 371-386. https://doi.org/10.1002/rrq.78

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610. journals.sagepub.com/doi/abs/10.1177/001316447003000308

Kvale, S. (1996). The 1,000-page question. *Qualitative inquiry*, *2*(3), 275-284.

Kvale, S., & Brinkmann, S. (2009). Interviews: Learning the craft of qualitative research interviewing. Thousand Oaks, CA: Sage.

Lankshear, C., & Knobel, M. (2008). *Digital literacies: Concepts, policies and practices* (Vol. 30). Peter Lang.

Larson, L. C. (2012). It's Time to Turn the Digital Page: Preservice Teachers Explore E-Book Reading. *Journal of Adolescent & Adult Literacy, 56*(4), 280-290. https://doi.org/10.1002/JAAL.00141

Lather, P. (1986). Issues of validity in openly ideological research: Between a rock and a soft place. Interchange, 17, 63-84. doi:10.1007/bf01807017

Leech, N. L., & Onwuegbuzie, A. J. (2006). Qualitative data analysis: A step-by-step approach. *American Educational Research Association, April, in San Francisco, CA.*

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly, 22*(4), 557-584. http://dx.doi.org/10.1037/1045-3830.22.4.557

Leech, N. L., & Onwuegbuzie, A. J. (2008). Qualitative data analysis: A compendium of techniques and a framework for selection for school psychology research and beyond. *School Psychology Quarterly*, *23*(4), 587-604.

Leech, N. L., & Onwuegbuzie, A. J. (2010). *Qualitative data analysis: A step-by-step approach.* Unpublished book.

Lei, J. (2010). Quantity versus quality: A new approach to examine the relationship between technology use and student outcomes. *British Journal of Educational Technology*, *41*(3), 455-472. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-8535.2009.00961.x

Lenhart, A., Madden, M., & Hitlin, P. (2005). Teens and Technology. Youth are leading the transition to a fully wired and mobile nation. Washington, DC: Pew Internet and American Life Project, 2005.*PIP_Teens_Tech_July2005web. pdf.*

http://www.pewinternet.org/files/old-media/Files/Reports/2005/PIP_Teens_Tech_July2005web.pdf.pdf

Lester, F. K. (2005). On the theoretical, conceptual, and philosophical foundations for research in mathematics education. *Zdm*, *37*(6), 457-467.

Leu, D. J., Kinzer, C. K., Coiro, J. L., & Cammack, D. W. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. *Theoretical models and processes of reading*, *5*(1), 1570-1613. https://s3.amazonaws.com/academia.edu.documents/39882371/Toward_a_Theory_of_New_Literacies_Emergi20151110275331mpueq6.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1530129532&Signature=TwhXdenZ7od1AZCueHwSBbpcNy8%3D&responsecontentdisposition=inline%3B%20filename%3DToward_a_theory_of_new_literacies_emergi.pdf

Lewis, C. (2007). New Literacies. In Knobel, M. & Lankshear, C. (Eds.) *A new literacies sampler (p. 229-237).* New York; Peter Lang.

Lewis, C., & Fabos, B. (2005). Instant messaging, literacies, and social identities. *Reading Research Quarterly*, *4*0(4), 470-501. onlinelibrary.wiley.com/doi/10.1598/RRQ.40.4.5/abstract

Lewis, T. Y. (2014). Affinity Spaces, Apprenticeships, and Agency. *Journal of Adolescent & Adult Literacy*, *58*(1), 71-81. onlinelibrary.wiley.com/doi/10.1002/jaal.322/abstract

Levy, D., & Simonovsky, E. (2016). Keeping in touch: tablets use by older adults. *International Journal for Infonomics (IJI)*, *9*(1), 35-40.

Littlejohn, A., Margaryan, A., & Vojt, G. (2010). Exploring Students' Use of ICT and Expectations of Learning Methods. *Electronic Journal of e-learning, 8*(1), 13-20. https://files.eric.ed.gov/fulltext/EJ880095.pdf

Liu, L., Jones, P. E., & Sadera, W. A. (2010). An investigation on experienced teachers' knowledge and perceptions of instructional theories and practices. *Computers in the Schools, 27*(1), 20-34. https://www.tandfonline.com/doi/abs/10.1080/07380560903536256

Liyanagunawardena, T. R., Adams, A. A., Rassool, N., & Williams, S. A. (2014). Developing government policies for distance education: Lessons learnt from two Sri Lankan case studies. *International Review of Education, 60*(6), 821-839. https://link.springer.com/article/10.1007/s11159-014-9442-0

Maness, J. M. (2006). Library 2.0 theory: Web 2.0 and its implications for libraries. *Webology, 3*(2), 2006. http://www.webology.org/2006/v3n2/a25.html

Manning, K. (1997). Authenticity in constructivist inquiry: Methodological considerations without prescription. *Qualitative Inquiry, 43,* 93-115. doi:10.1177/107780049700300105

Marsh, J. (2006). Popular culture in the literacy curriculum: A Bordieuan analysis. *Reading Research Quarterly, 41*(2), 160-174. onlinelibrary.wiley.com/doi/10.1598/RRQ.41.2.1/pdf

Martin, A. (2006). Literacies for the digital age: preview of Part 1. *Digital literacies for learning*, 3-25.

Mayes, T., & Fowler, C. (2006). Learners, learning literacy and the pedagogy of e-Learning. In A. Martin & D. Madigan (Eds.) *Digital literacies for learning (26-33).* London: Facet.

McKay, Judy and Marshall, Peter, "Quality and Rigour of Action Research in Information Systems" (2000). ECIS 2000 Proceedings. Paper 38. http://aisel.aisnet.org/ecis2000/38

McKenna, M. C., Conradi, K., Lawrence, C., Jang, B. G., & Meyer, J. P. (2012). Reading attitudes of middle school students: Results of a US survey. *Reading Research Quarterly*, *47*(3), 283-306. https://onlinelibrary.wiley.com/doi/abs/10.1002/rrq.021

McLean, C. A. (2010). A space called home: An immigrant adolescent's digital literacy practices. *Journal of Adolescent & Adult Literacy*, *54*(1), 13. https://onlinelibrary.wiley.com/doi/abs/10.1598/JAAL.54.1.2

Meneses, J., Fàbregues, S., Rodríguez-Gómez, D., & Ion, G. (2012). Internet in teachers' professional practice outside the classroom: Examining supportive and management uses in primary and secondary schools. *Computers & Education*, *59*(3), 915-924. https://doi.org/10.1016/j.compedu.2012.04.011

Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. Jossey-Bass.

Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook (2nd ed.). Thousand Oaks, CA: Sage.

Miles, M. B., Huberman, A. M., & Saldaňa, J. (2013). *Qualitative data analysis: A methods sourcebook.* Thousand Oaks, CA: Sage.

Miller, W. (2012). iTeaching and learning. *Library Technology Reports*, *48*(8), 54. https://journals.ala.org/ltr/article/view/4282/4908

Ministry of National Education (MNE) (2012). Fatih Project. Proceedings of ICERI2016 Conference 14th-16th November 2016, Seville, Spain

Mirriahi, N., Alonzo, D., & Fox, B. (2015). A blended learning framework for curriculum design and professional development. *Research in Learning Technology, 23*(1), 28451. http://dx.doi.org/10.3402/rlt.v23.28451

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1018-1054. doi:10.1111/j.1467-9620.2006.00684.

Misirli, Z. A., & Akbulut, Y. (2013). Development of a Scale to Explore Technology Literacy Skills of Turkish 8th Graders. *Contemporary Educational Technology, 4*(4), 249-262. https://files.eric.ed.gov/fulltext/EJ1105515.pdf

Moustakas, C. (1994). *Phenomenological research methods*. Sage.

National Council of Teachers of English (2018). Beliefs for integrating technology into the English Language Arts Classroom. Retrieved from http://www2.ncte.org/statement/beliefs-technology-preparation-english-teachers/

Neiss, M. L. (2011). Investigating TPACK: Knowledge growth in teaching with technology. *Journal of Educational Computing Research, 44*(3), 299-317. journals.sagepub.com/doi/abs/10.2190/EC.44.3.c

Nicholson, J., & Galguera, T. (2013). Integrating new literacies in higher education: a self-study of the use of twitter in an education course. *Teacher Education Quarterly, 40*(3), 7-26. https://files.eric.ed.gov/fulltext/EJ1014321.pdf

Nowell, S. D. (2012). *Stories of digital lives: Teacher-student relationships in secondary classrooms and digital spaces* (Doctoral dissertation, Oklahoma State University). https://search.proquest.com/openview/bf2d880b1e156dc40289485a3d3fcfef/1?pq-origsite=gscholar&cbl=18750&diss=y

Onwuegbuzie, A. J., & Collins, K. M. (2007). A typology of mixed methods sampling designs in social science research. *The qualitative report, 12*(2), 281-316. Retrieved from http://nsuworks.nova.edu/tqr/vol12/iss2/9

Onwuegbuzie, A. J., Dickinson, W. B., Leech, N. L., & Zoran, A. G. (2010). Toward more rigor in focus group research in stress and coping and beyond. *Toward a broader understanding of stress and coping. Mixed methods approaches*, 243-285.

Onwuegbuzie, A. J., & Frels, R. (2016). *Seven steps to a comprehensive literature review: A multimodal and cultural approach*. Sage.

Onwuegbuzie, A.J., & Leech, N. L. (2007). A call for qualitative power analyses. *Quality & Quantity: International Journal of Methodology, 41,* 105-121. doi: 10.1007/s11135-005-1098-1

Onwuegbuzie, A. J., Leech, N. L., & Collins, K. M. (2008). Interviewing the interpretive researcher: A method for addressing the crises of representation, legitimation, and praxis. *International Journal of Qualitative Methods*, *7*, 1-18. doi/abs/10.1177/160940690800700401

Onwuegbuzie, A. J., Leech, N. L., Slate, J. R., Stark, M., Sharma, B., Frels, R. K. & Combs, J. P. (2012). An exemplar for teaching and learning qualitative research. *The Qualitative Report*, *17*, 16-77. Retrieved from http://nsuworks.nova.edu/tqr/vol17/iss1/2

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307-332. https://doi.org/10.3102/00346543062003307

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method

implementation research. *Administration and Policy in Mental Health*, *42*(5), 533–544. http://doi.org/10.1007/s10488-013-0528-y

Papert, S., & Harel, I. (Eds.). (1991). *Constructionism: research reports and essays, 1985-1990*. Ablex Publishing Corporation.

Patton, MQ. (2001). *Qualitative Research and Evaluation Methods* (2nd Edition). Thousand oaks, CA: Sage Publications.

Pew Research Center. (2010). Millennials: A portrait of Generation Next. Retrieved from http://pewresearch. org/millennials.

Pew Research Center. (2018) http://www.pewresearch.org/fact-tank/2018/03/01/defining-generations-where-millennials-end-and-post-millennials-begin/

Pew Research Center. (2019). "Millennials Stand Out for Their Technology Use, but Older Generations Also Embrace Digital Life." Pew Research Center, Washington, D.C. (2019) https://www.pewresearch.org/fact-tank/2019/09/09/us-generations-technology-use/

Prensky, M. (2001). Digital natives, digital immigrants' part 1. *On the Horizon*, *9*(5), 1-6. https://www.emeraldinsight.com/doi/pdf/10.1108/10748120110424816

Provalis Research. (2014). QDA Miner (Version 4.1.22) [Computer software.] Montreal, Quebec, Canada; Author.

Robertson, C., & Lange, S. (2017). 'Looking: Thinking: Making': How is digital culture influencing practice? *Spark: UAL Creative Teaching and Learning Journal*, *2*(2), 139-143. http://ualresearchonline.arts.ac.uk/11469/

Rosaen, C., & Terpstra, M. (2012). Widening worlds: Understanding and teaching new literacies. *Studying Teacher Education, 8*(1), 35-49. https://www.tandfonline.com/doi/abs/10.1080/17425964.2012.657015

Roulston, K., 2001. Data analysis and 'theorizing as ideology'. *Qualitative research, 1*(3), pp.279-302.

Roulston, K. (2010). Considering quality in quantitative research. *Qualitative Research, 10,* 199 228. doi:10.1177/1468794109356739

Schegloff, E. A. (1987). Analyzing single episodes of interaction: An exercise in conversation analysis. *Social psychology quarterly*, *50*(2), 101-114. http://dx.doi.org/10.2307/2786745

Schulze, K. R. (2014). *Relationships between teacher characteristics and educational technology* (Doctoral dissertation, Walden University).

Scriven, M. (1986). Evaluation as a paradigm for educational research. *New directions in educational evaluation*, 53-67.

Sharpe, R., & Beetham, H. (2010). Understanding Students' Uses of Technology for Learning: Towards Creative Appropriation. In *Rethinking Learning for a Digital Age* (pp. 107-121). Routledge.

Smeureanu, I., & Isaila, N. (2012). New information technologies for an innovative education. *World Journal on Educational Technology*, *4*(1), 177-189.

Snider, S. L. (2002). Exploring technology integration in a field-based teacher education program: Implementation efforts and findings. *Journal of Research on Technology in Education*, *34*(3), 230-249. doi: 10.1080/15391523.2002.10782347

Spires, H. A., & Bartlett, M. E. (2012). Digital literacies and learning: Designing a path forward. *Friday Institute White Paper Series, 5*.

Spires, H. A., Lee, J. K., Turner, K. A., & Johnson, J. (2008). Having our say: Middle grade students' perspectives on school, technologies, and academic engagement. *Journal of research on Technology in Education, 40*(4), 497-515.

Søby, M. (2003). Digital Competence – from ICT-skills to digital "bildung". Oslo: ITU.

Spazak, L. (2013). *Secondary preservice teachers' perception of preparedness to integrate technology* (Doctoral dissertation, Indiana University of Pennsylvania).

Stake, R. E. (1978). The case study method in social inquiry. *Educational researcher, 7*(2), 5-8.

Stake, R. E. (1995). *The art of case study research.* Sage.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques*. Sage publications.

Strayhorn, T. L. (2006). College in the information age: Gains associated with students' use of technology. *Journal of Interactive Online Learning, 5*(2), 143-155. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.555.5163&rep=rep1&type=pdf

Stephen F. Austin State University. (2014-2017). SED372: What are your perceptions of digital literacy in a higher education course? [Disciplinary literacy]. Retrieved from https://d2l.sfasu.edu

Stephen F. Austin State University. (2017). RDG398: How can I use digital literacy learned in my preservice teacher program in my contemporary classroom? [Literacy needs of diverse learners]. Retrieved from https://d2l.sfasu.edu

Sutton, J., & Austin, Z. (2015). Qualitative research: data collection, analysis, and management. *The Canadian journal of hospital pharmacy*, *68*(3), 226.

Swan, K., & Hofer, M. (2011). In search of technological pedagogical content knowledge: Teachers' initial foray into podcasting in economics. *Journal of Research on Technology in Education, 44*(1), 75-98. https://doi.org/10.1080/15391523.2011.10782580

Tapscott, D. (2009). *Grown up digital: how the net generation is changing your world HC.* McGraw-Hill.

Terpstra, M. A. (2009). *Developing Technological Pedagogical Content Knowledge: Preservice Teachers' Perceptions of How They Learn to Use Educational Technology in Their Teaching*. ProQuest LLC. 789 East Eisenhower Parkway, PO Box 1346, Ann Arbor, MI 48106.

Wen, J. R., & Shih, W. L. (2008). Exploring the information literacy competence standards for elementary and high school teachers. *Computers & Education, 50*(3), 787-806.

World Wide Web (2006).

Yin, R. K. (1981). The case study as a serious research strategy. *Knowledge*: *Creation, Diffusion, Utilization, 3*(1), 84-100.

Yin, R. K. (1994). *Case study research: Design and methods.* Thousand Oaks, CA: Sage.

Yin, R. K. (2003). *Applications of* c*ase study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage Publishing.

Youssef, A. B., Dahmani, M., & Omrani, N. (2015). Information technologies, students' e-skills and diversity of learning process. *Education and Information Technologies, 20*(1), 141-159.

Zhou, G., Zhang, Z., & Li, Y. (2011). Are secondary preservice teachers well prepared to teach with technology? A case study from China. Australasian Journal of Educational Technology, 27, 943-960. (might not use)

Appendix A

Interview Questions

1. How did the teacher preparation program prepare you for using digital literacies in coursework during your college years and future classroom – assignments, activities, lesson plans, etc.?

2. Now that you have taught 1-2 years, what could have been provided in your teacher preparation program to prepare you more for teaching with digital literacies?

3. Thinking about digital literacies, what would you include as your top classroom interactions with these four categories: online resources, online interactions, old/new literacies, and technology tools?

Online Resources	Online Interactions	Old/New Literacies	Technology Tools

4. What type of online resources do you use to prepare for instruction? What do your students use in their coursework?

5. How much time do your students spend on using digital literacies? In school vs. homework?

6. Where do you see the most integration of students' uses of digital literacies – instruction, research, or presentations?

7. How do you compare/contrast your personal digital literacies to the ones you use for professional application in the classroom?

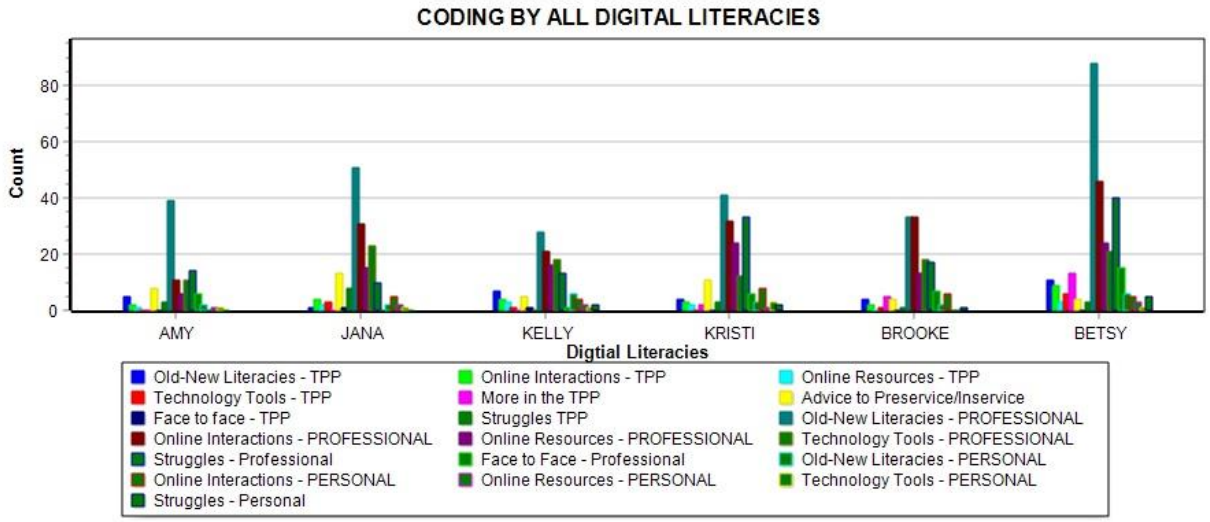
8. What type of online or face-to-face classroom (blended) community platforms do you participate in- emails, parent connections, faculty messages, etc.?

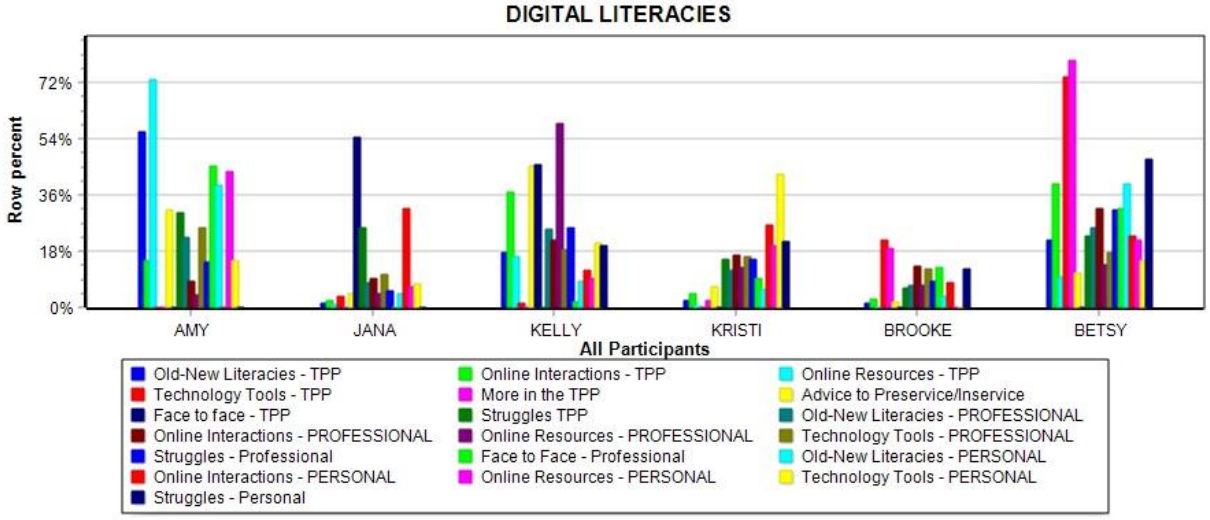
9. Are there any restrictions for digital literacies or technology practices in your district? How do you work with those restrictions?

10. If you were addressing future teachers, preservice candidates in a teacher preparation program, what advice would you provide them in preparing for

Appendix B

Participants' Top Digital Literacies





Appendix C

Amy	**Teacher Preparation Programs**	**Personal**	**Professional**
Technology Tools	• iPhone • Class phone • Cellphone • TI -Nspire • Laptop carts • Computers • Google Drive		• Computer • TI-Nspire • Online Training • Laptop cart • Google Drive • Emails
Online Interactions	• Google Docs • Expectations		• Online sign-up • Testing • Quizzes • Worksheets • TI-Nspire • Videos • Google School • Google Instruct • Communicating • Emails • Report cards
OLP/New Literacies	• Vocabulary • Defining • Visual • D.L. Implementing	• Communication • Phone calls	• Respond listening • Writing/ implementing • Define • Look up/research
Online Resources	• Google Docs	• Communication	• Google Drive • Online websites • REWIND • Google Classroom

Struggles	• Not good • Grasping digital literacies • Lack of info	• Separating • Pro/Per	• Calculator use • Student self-paced • Differentiated activities • Technology • Explore time • Student resources at home • Cell phone prohibit • Teachers break rules • Student motivation • Computer outage • Students' lack of computer knowledge

Jana	Teacher preparation programs	Personal	Professional
Technology Tools	• iPhone • Class phone • Cellphone • TI-Nspire • Laptop carts • Computers • Google Drive		• Computer • TI-Nspire • Online Training • Laptop cart • Google Drive • Emails
Online Interactions	• Google Docs • Expectations		• Online sign-up • Testing • Quizzes • Worksheets • TI-Nspire • Videos • Google School • Gweig Instruct • Communicating • Emails • Report cards
OLD/New Literacies	• Vocabulary • Incorporating • Defining • Visual • D.L. Implementing	• Communication • Phone calls	• Respond listening • Writing the plementing • Define • Look up/research
Online Resources	• Google Docs	• Communication	• Google Drive • Online websites • REWIND • Google Classroom
Struggles	• Not good • Graspon P.L • Lack of info	• Separating • Pro/Per	• Calculator use • Student self-paced • Differentiated activities • Technology • Explore time • Student resources at home • Cell phone prohibit

			• Teachers break rules • Student motivation • Computer outage • Students' lack of computer knowledge

Kristi	Teacher preparation programs	Personal
Technology Tools		• Computer • Chromebook • iPad • iPhone
Online Interactions	• Google doc • Google classroom • Computer assignments	• Emails • Snapchat • Texting • Social media • Online shopping • Buying plane tick • Computer • Quizziz • Kahoot • Facetime • Podcasts • Recorded faculty meeting • Lesson plans calculator app • Instructional videos
Old/New Literacies	• Editing • Organizing • Connecting • Socrative seminars	
Online Resources	• Google Forms • Google classroom	• Tests • Spotify • YouTube • Netflix

Struggles	• Organization • Classroom management • Heavy textbooks • Teacher cart • Broken keyboard • Chromebook in other class • Misuse of chrome books • Testing schedule • Parent communication • No home internet • Parent conf during day • Behavior issues • Instead of work -> playing games on Chromebooks • No projector/TV • Size of classroom • Testing focus • Student text not online	• Organized grading

Kelly	**Teacher preparation programs**	**Personal**	**Professional**
Technology Tools	• Kahoot • Websites	• Phone • iPad	• IPAPS (cart) • Peardeck Apps • Promethean board • Clickers • Calculators TI-Nnspire • TEAMS • Chargers • Stylus • Schoolology • Emails • Smart board • Mac Books • Videos • Digital tools
Online Interactions	• Exposure to websites • Kahoot • Tech in lesson plans	• Google Research • Social media	• Laptop carts • Review • Flashcard factory • Vocabulary Cards • Quizlet • Warm up Quest • Graphing • “Tech Sip” of week • Budget project • Cred-like websites • Promethean bd. • Scavenger hunt • Activities • Puzzles • Remind 101 • “News of Day” Email • District FB page • Interactive Powerpoints • Research • Presentation • Instruction • Flash Cards

			• Tutorial • Assignments
OLP/New Literacies	• Operate • Submit • Apply vs shown • Trying • On your own • Looking • Exposure	• School • Looking • Reading • Research • Pop ups • Wind down • Detach	• Reading • Reiterating • Partner • Study • Drawing pics • Defining
Online Resources	• Exposure • Modeling • Edmodo • Websites • Programs	• Teachers pay Teachers • Teacher blogs	• Tech building/support • Math games • TEAM (Parent portal) • Instagram • Social Media • Google classroom • Maneuvering the middle • Puzzles • Task cards
Struggles		• Research for classroom • Turning “off” tech	• Scavenger hunts • Teachers pay T • Websites • Dig. Lesson plans • Flashcard factors • Power point

Brooke	**Teacher preparation programs**	**Personal**	**Professional**
Technology Tools	• Google slides • Task cards • Escape rooms • Twitter	• iPad • Computer labs • Laptops (cart) • iPods • Grammerly • YouTube	• iPad cart • Kahoot • Gimkit • Typing devices • iPhones/cell • Facebook • Google forms • Digital databases • (cart) Chromebooks • Powtoon videos
Online Interactions	• Twitter	• Research • Social Media • Facebook	• Twitter #tellingyourstory • Sharing • Communicating • Digital lesson plans • Digital Reviews • Google slides • Pear Deck • Lesson creations • Remind 101 • Facebook • News ELA • Digital Exit Tickets • QR codes • Grammarly • Google classroom • Book snaps • Literature circles • Research • Presentations • Email • Friday forecast • Instagram • TeacherTube • Escape rooms • Professional development trainings

Old/New Literacies	• Read • Open discussions • Spark ideas • Responding	• Online shopping • Research	• Discussions • Collaborating • Reading • Typing • Communicating • Sharing • Responding
Online Resources	• Socrative seminar • Lesson structure then digital resource		• Teachers pay teachers • View pure • Instagram • Presentations • Remind • Canvas • Google classroom
Struggles	• Extra social media • Twitter • District Tech Tools	• More social for personal	• Lessons • Technology intimidation • Present district apps • Tech-Dig lit. • Reserving carts • Students lack of personal devices • Not wanting to pair • Availability • Lack of personal time • Not one to one • Social media is blocked

Betsy	**Teacher preparation programs**	**Personal**	**Professional**
Technology Tools	• Apps • Class tech tools • Device or platform • L Plan/tch • Set device expect	• Devices in free time • Scrolling w/ device	• iPads • Apps • Chargers • Stylus • (t) Mac Books • Videos • Digital tools • Schoology • Emails • Smart board
Online Interactions	• Digital turn it-in • Transitioning • Period • Socrative Seminar	• Ghost mode • Find my friends • Device for personal • Digital org. • Lesson plans - create tech.	• School network devices • Hack-a-thon • Immediate data • Quizziz • Quizlet live • App skills • Schoology • Google doc • Google slides • Google app • Digital update announcement • Email • Assessment • Alignment • Ghost mode • Self-paced units • Video responses • Digital portfolios • Creating videos • Competitive practice • IXL (Excel) • College pennant project • Professional applications • Presentations

			• (UBD) Understanding • By design • Notability • Class warmup • Digital citizenship • Research • Ted Talks
Old/New Literacies	• Writing • Organizing • Social interaction • Talking • Transitioning • Digital exit tickets • Thinking • Communicating • Digital turn it in	• Zoom in • Scrolling • Visuals • "Paper" print • Relating	• Listening • Speaking • Creating • Video viewing • Intake info • Digital turn in • Explaining • Transitions • Discussions • Submit • Connect • Provide info • Sharing • Instruct video • Organizing • Digital lit. • Researching • Talking • Reading
Online Resources	• Lesson Plan then digital appl.	• Devices • Relating to school • Digital organization • School platforms	• District app store • Apple classroom • Digital coaches • Schoology

Appendix D

Interview Consent Form

_____ (Interviewer) has permission to interview me,

_____, (interviewee) in a specified location at the inservice teachers' Title One school. As an interviewee, I will answer the questions to the best of my ability. I know my interview will be recorded for purposes of fact and member checking. If at any time I feel uncomfortable or unable to answer, I will decline and ask for another question.

_____

Interviewee Date

As an interviewer, I _____, (Elizabeth Gound) will do my best to ask questions regarding our topic "What are the perceptions of select students regarding their academic readiness in a literacy doctoral program?" The interview topics are listed below for quick review.

1. How would you define digital literacies? Or digital literacy practices?
2. How would you describe your personal digital literacies?
3. How are the personal practices different than your instructional or professional digital literacies?
4. What type of digital literacies were taught in your TPP coursework?
5. How did your TPP prepare you for using digital literacies for personal or professional gain?
6. What other digital literacies should be included in the TPP to prepare you for your future classroom?
7. Where do you see a disconnect from TPP to the classroom in the Title One school?

8. What digital literacies are your students using outside of school?
9. What digital literacies are your students applying to their classroom learning, on their own?
10. What other digital literacies are you observing from other teachers or educators that they are applying to their classroom instruction?

If at any time the interviewee becomes uncomfortable or unable to finish the interview, I will stop and conclude the questions after a quick break or at another time.

_____

Researcher Date

Appendix E

Debriefing Consent Form

The interviewer has permission to debrief me, _____(Interviewee) in a specified location. The purpose of debriefing is to obtain and use reflexive data; to help interpretive researchers identify and reflect any degree of their biases so there will be minimum influence of the research study.

_____

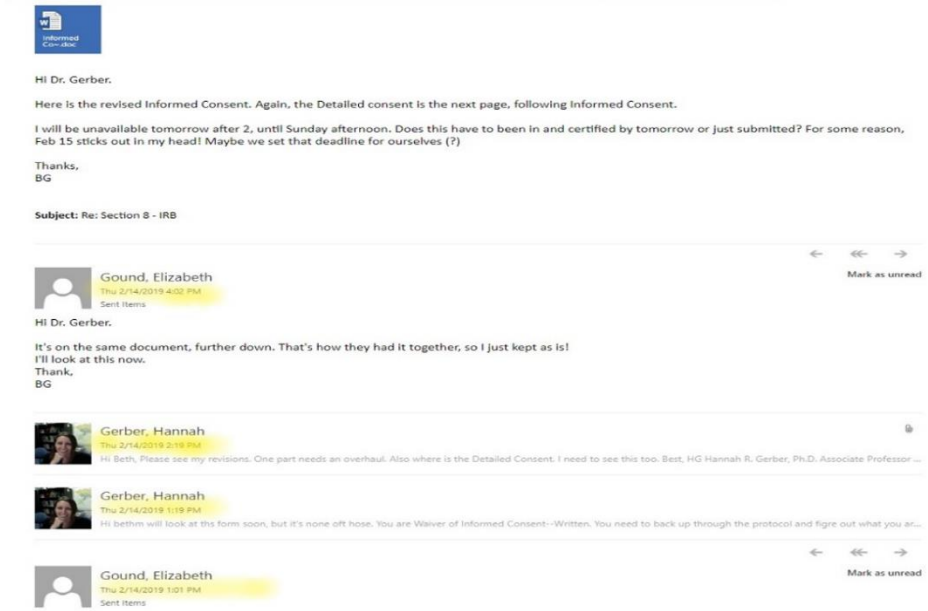
Interviewee Date

If at any time the interviewee becomes uncomfortable or unable to finish the interview, I will stop and conclude the questions after a quick break or at another time.

_____

Interviewer Date

Appendix F



Informed Con~.doc

Hi Dr. Gerber.

Here is the revised Informed Consent. Again, the Detailed consent is the next page, following Informed Consent.

I will be unavailable tomorrow after 2, until Sunday afternoon. Does this have to been in and certified by tomorrow or just submitted? For some reason, Feb 15 sticks out in my head! Maybe we set that deadline for ourselves (?)

Thanks,
BG

Subject: Re: Section 8 - IRB

Mark as unread

Gound, Elizabeth
Thu 2/14/2019 4:02 PM
Sent Items

Hi Dr. Gerber.

It's on the same document, further down. That's how they had it together, so I just kept as is!
I'll look at this now.
Thank,
BG

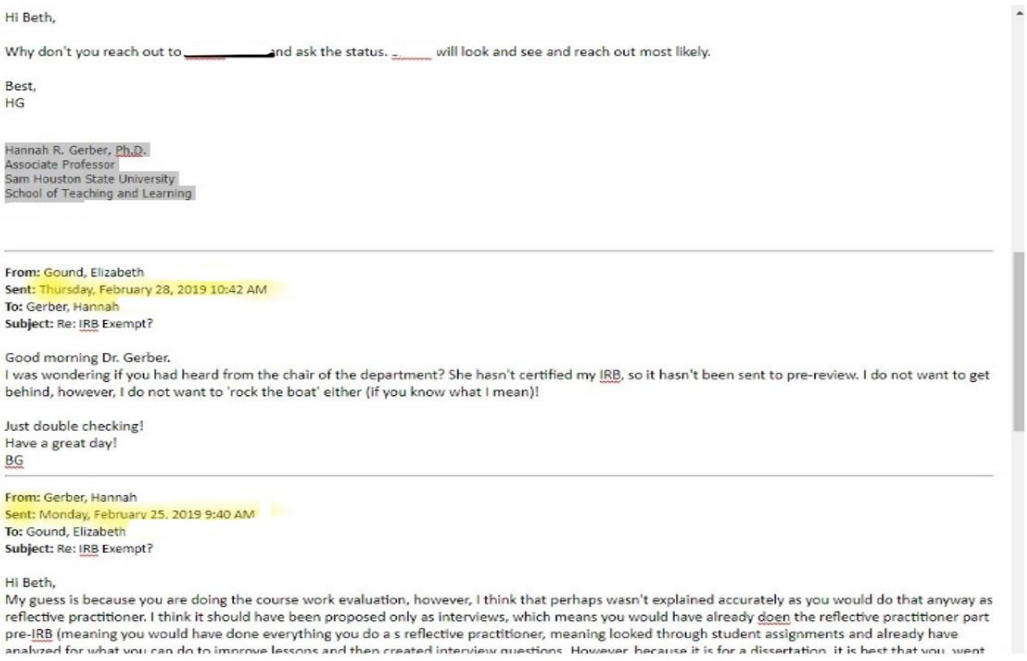
Gerber, Hannah
Thu 2/14/2019 2:19 PM
Hi Beth, Please see my revisions. One part needs an overhaul. Also where is the Detailed Consent. I need to see this too. Best, HG Hannah R. Gerber, Ph.D. Associate Professor ...

Gerber, Hannah
Thu 2/14/2019 1:19 PM
Hi bethm will look at ths form soon, but it's none oft hose. You are Waiver of Informed Consent--Written. You need to back up through the protocol and figre out what you ar...

Mark as unread

Gound, Elizabeth
Thu 2/14/2019 1:01 PM
Sent Items

Figure 4.1. Emails between my dissertation chair and myself on the subject of IRB consent forms.



Hi Beth,

Why don't you reach out to [redacted] and ask the status. [redacted] will look and see and reach out most likely.

Best,
HG

Hannah R. Gerber, Ph.D.
Associate Professor
Sam Houston State University
School of Teaching and Learning

From: Gound, Elizabeth
Sent: Thursday, February 28, 2019 10:42 AM
To: Gerber, Hannah
Subject: Re: IRB Exempt?

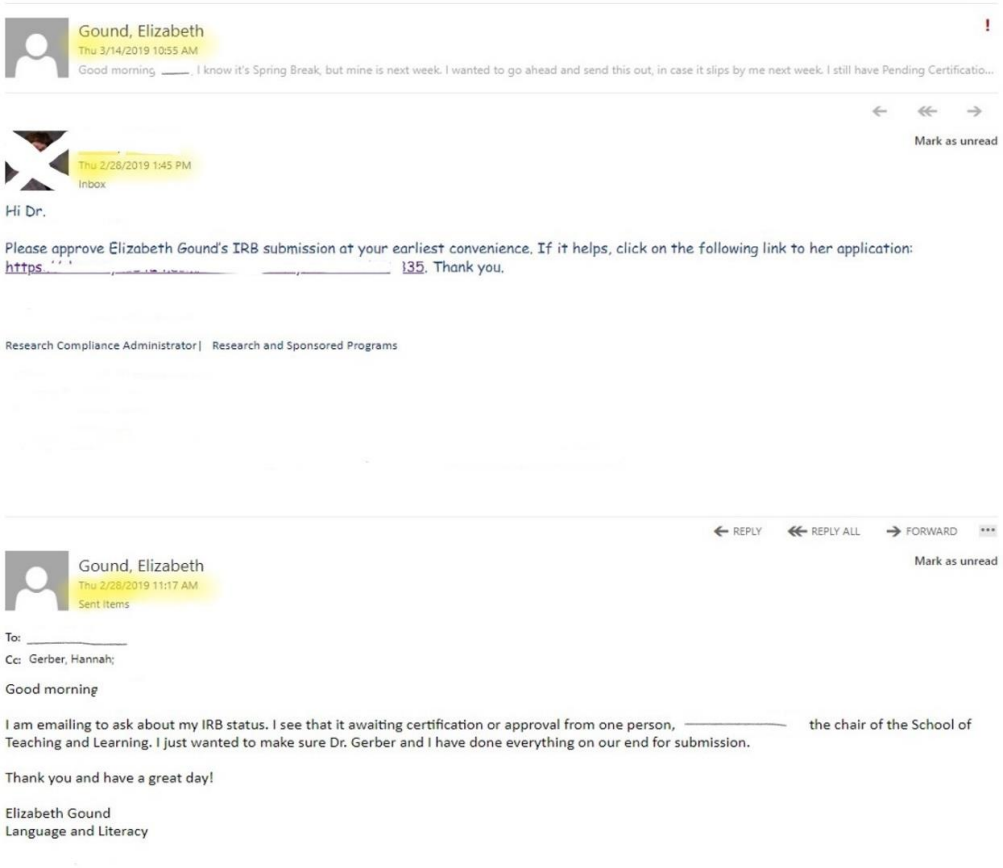
Good morning Dr. Gerber.
I was wondering if you had heard from the chair of the department? She hasn't certified my IRB, so it hasn't been sent to pre-review. I do not want to get behind, however, I do not want to 'rock the boat' either (if you know what I mean)!

Just double checking!
Have a great day!
BG

From: Gerber, Hannah
Sent: Monday, February 25, 2019 9:40 AM
To: Gound, Elizabeth
Subject: Re: IRB Exempt?

Hi Beth,
My guess is because you are doing the course work evaluation, however, I think that perhaps wasn't explained accurately as you would do that anyway as reflective practitioner. I think it should have been proposed only as interviews, which means you would have already doen the reflective practitioner part pre-IRB (meaning you would have done everything you do a s reflective practitioner, meaning looked through student assignments and already have analyzed for what you can do to improve lessons and then created interview questions. However, because it is for a dissertation, it is best that you went

Figure 4.2. Emails to my dissertation chair, concerning my submission in indeterminate state.



Gound, Elizabeth
Thu 3/14/2019 10:55 AM
Good morning ____. I know it's Spring Break, but mine is next week. I wanted to go ahead and send this out, in case it slips by me next week. I still have Pending Certificatio...

Mark as unread

Thu 2/28/2019 1:45 PM
Inbox

Hi Dr.

Please approve Elizabeth Gound's IRB submission at your earliest convenience. If it helps, click on the following link to her application: https... 135. Thank you.

Research Compliance Administrator | Research and Sponsored Programs

REPLY REPLY ALL FORWARD

Mark as unread

Gound, Elizabeth
Thu 2/28/2019 11:17 AM
Sent Items

To: _____
Cc: Gerber, Hannah;

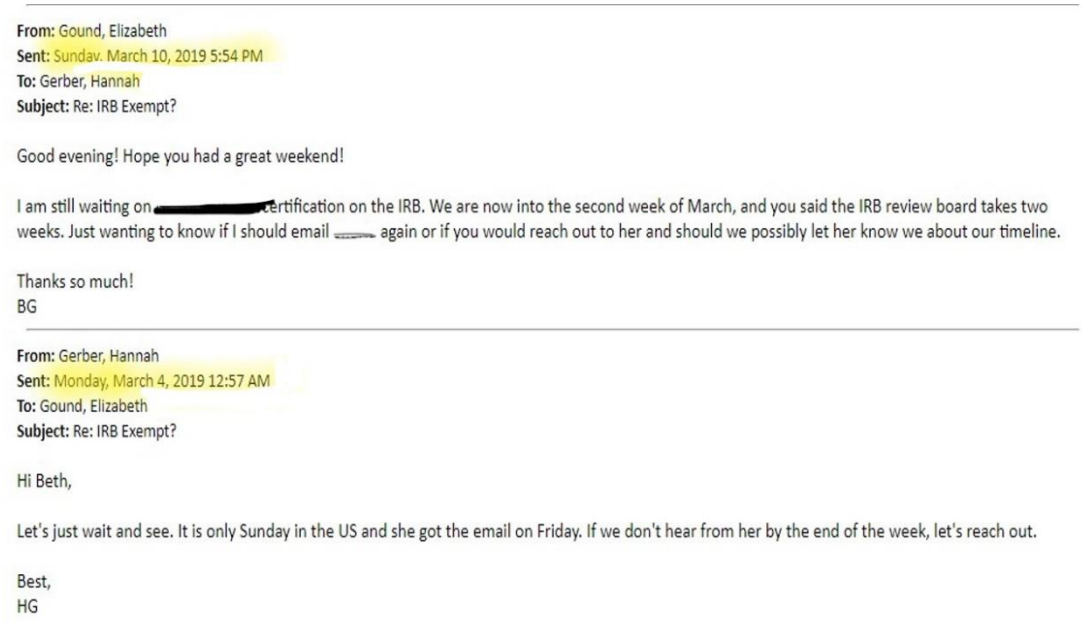
Good morning

I am emailing to ask about my IRB status. I see that it awaiting certification or approval from one person, _____ the chair of the School of Teaching and Learning. I just wanted to make sure Dr. Gerber and I have done everything on our end for submission.

Thank you and have a great day!

Elizabeth Gound
Language and Literacy

Figure 4.4. Emails to research compliance administrator about the submission stuck in the queue for two months awaiting department chair approval.



From: Gound, Elizabeth
Sent: Sunday, March 10, 2019 5:54 PM
To: Gerber, Hannah
Subject: Re: IRB Exempt?

Good evening! Hope you had a great weekend!

I am still waiting on [redacted] certification on the IRB. We are now into the second week of March, and you said the IRB review board takes two weeks. Just wanting to know if I should email [redacted] again or if you would reach out to her and should we possibly let her know we about our timeline.

Thanks so much!
BG

From: Gerber, Hannah
Sent: Monday, March 4, 2019 12:57 AM
To: Gound, Elizabeth
Subject: Re: IRB Exempt?

Hi Beth,

Let's just wait and see. It is only Sunday in the US and she got the email on Friday. If we don't hear from her by the end of the week, let's reach out.

Best,
HG

Figure 4.3. Emails pertaining to delayed dates, between my dissertation chair and myself.

VITA

Elizabeth B. Gound

EDUCATION

SAM HOUSTON STATE UNIVERSITY May 2020

Ed.D. Educational Literacy
Literacy, School of Teaching and Learning
Dissertation: Digital Literacy Practices of My Former Preservice Teachers:
Are They Being Prepared?

UNIVERSITY OF NORTH TEXAS 2000

Major: Secondary Education
Emphasis: Reading Recovery

STEPHEN F. AUSTIN STATE UNIVERSITY 1992

Interdisciplinary Studies
Major: Reading 1-8

PROFESSIONAL POSTITIONS

Instructor
Stephen F. Austin State University, 2017- Present
Department of Educational Studies

Visiting Instructor
Stephen F. Austin State University, 2009-2017
Department of Secondary Education and Educational Leadership

Adjunct Faculty
Stephen F. Austin State University, 2007-2008
Department of Secondary Education and Educational Leadership

Teacher
Garrison Middle School, 1995-2006
Reading 7/8 grade

Teacher
Bowie Middle School, 1992-1995
Reading 7/8

HONORS & AWARDS

Adjunct/Visiting Faculty Award, 2015-2016
James I Perkins College of Education
Volunteer of the Year, 2009
Nacogdoches Junior Forum
Middle School Teacher of the Year, 1996-1997
Garrison Middle School
Go Getter Award, 1995
Bowie Middle School

LICENSURES & CERTIFICATIONS

Digital Literacy Certification, SHSU, 2016
Online Certification, SFASU 2011

PUBLICATIONS

Book Review

Gound, E. B. (2016). The teacher's journal: A workbook for self-discovery. *Teacher Education & Practice,* 28(4*).*

Book Chapter

Gound, E. B. (2016). Teaching and learning: How it's done. In Hendricks, S. and Bailey, S. *Preparing Educators for Online Learning: A Careful Look at the Components and How to Assess Their Value.* (pp. 1-12). Rowman and Littlefield.

CONFERENCE PRESENTATIONS

National

Williams, D. M., Whitley, C., & Gound, E. (2019). *Teacher Teams that Work* at the AMLE National Conference November 9, 2019. Nashville, Tennessee.

Williams, D. M., Whitley, C., Khan, L., & Gound, E. (2018). *Effective Team Building.* Presentation at the AMLE National Conference October 27, 2018. Orlando, Florida.

Kahn, L., Whitley, C., & Gound, E. (2018). *Engage with Low Tech Vocabulary.* Presentation at the AMLE National Conference, October 26, 2018. Orlando, Florida.

Gound, E.B. (2017). *Modeling Literacy Strategies with Technology.* Presentation at the AMLE National Conference, November 7, 2017. Philadelphia, Pennsylvania.

Olsen-Beal, H., Smith, M., & Gound, E. (2016). *STEPS – Pilot program for integrating tablets in the classroom.* Presentation at the ATE National Conference, February 15, 2016. Chicago, Illinois.

Black, L.J. & Gound, E. (2015). *Increasing cultural competence: relevant and quality early field experiences.* Presentation at the ATE National Conference, February 16, 2015. Phoenix, Arizona.

Rudolph, A., Armstrong, N., Austin, K., Black, L. J., & Gound, E. (2011). *The role of professional development in college and career readiness: A state initiative.* Presentation at the Professional Development Schools National Conference, March 12, 2011. New Orleans, Louisiana.

State

Gound, E. (2013). *Creating Relevant and Quality Early Filed Experiences for the 21st Century Classroom.* CREATE Conference, November 12, 2013, Austin, Texas.

College

Gound, E. (2012). I Pad Training for faculty. SED/Education Leadership, SFA.

MEDIA CONTRIBUTIONS

Office of Instructional Technology Training 2011
STEP - SFASU Tablet Enhanced Program 2014-2015
IPad, Training 2012

PROFESSIONAL MEMBERSHIPS

International Literacy Association 2014 – Present

Association of Texas Educators 2014 - 2017
Association of Middle Level Educators (AMLE) 2017 - Present
National Association of Professors of Middle Level Education (NAPOMLE) 2017 - Present
NAPOMLE Executive Board Member 2018 - Present

TEACHING EXPERIENCE

RDG 318 Survey of Reading

RDG 390 Content Area Reading & Writing - **Online**

RDG 398 Literacy Needs of Diverse Learners - **Online**

MLG 403P Integrating Middle Grades – Field Placement

SED 370 Introduction to Pedagogy

SED 372 Reading and Information Literacy in Secondary School

SED 372 Reading and Information Literacy in Secondary Schools – **Online**

SED 450 Meeting the Needs of Diverse Learners

SED 450L Meeting the Needs of Diverse Learners - **Field-Based Secondary Internship**

SED 450 Meeting the Needs of Diverse Learners – **Online**

SED 460 Classroom Management

Reading Teacher 7/8 grade

Reading Recovery 7/8 grade

Site-Based Committee Member

Graduation Coordinator

Tennis Coach

Cheerleader Sponsor

Textbook Adoption Committee

Accelerated Reading Coordinator

PROFESSIONAL SERVICE

National

Attendee and Participant, National Association of Professors of Middle Level Education Business meetings (NAPOMLE). Currently serving on the national board. 2017-Present

Regional/State

Executive Board Member, National Association of Professors of Middle Level Education (NAPOMLE). 2018-Present

College of Education

Ad Hoc Committee 2019

Department of Elementary Education

Technology Committee 2017- Present

Technology Committee Co-Chair 2019 - Present

Course Director, RDG 390 & 398 2018 – Present

Member, James I. Perkins College of Education Recruitment Committee 2018 - Present

Student teacher/Intern committee 2013 – Present

Member, SFASU Elementary Education Scholarship Committee 2017-2019

University SED Scholarship Committee 2013-2017

ENLACE, CONFIANZA, ELL Committee Member 2011 – 2015

Showcase Saturday Participant 2014-2018

Freshman Convocation, Participant 2012 – 2017

East Texas GEAR-UP Project eMentoring, University advisor 2008

Local

American Association of University Women 2019

Expanding Your Horizons Volunteer 2019

Rotary Book Mobile 2013 - 2015

FBC Nacogdoches Leader 2007 - 2014

PTO SFA Charter 2008 - 2015

Walk-a-thon-Chair, Volunteer 2013

PTO SFA Lab 2008-2015

PTO Secretary 2010

SFA Charter Book Fair Volunteer 2011 - 2015

Nacogdoches Junior Forum 2003 - 2014

President, Provisional Director, Secretary, Advisory Board, Sustainer Advisor

TEACHING INTERESTS

Literature in the Pre-Service Classroom

Digital Literacies and the Digital Environment

Effective classroom management

Diversity/Differentiation in K-12 classrooms

Curriculum Development in K-12 reading

RESEARCH INTERESTS

Digital Literacies and the Preservice Teacher

Technology in Teaching

Teacher Preparation Programs